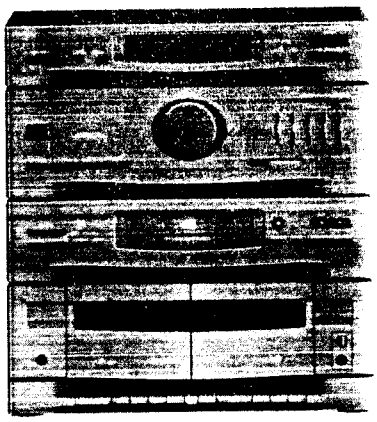
Midi System AS650/20/20B/21/22/25

AS655/21/30

Service
Service
Service



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Annex
Service Manual of Record Player DL-40
Service Manual of Tape Transport RDN-11

CLASS 1
LASER PRODUCT

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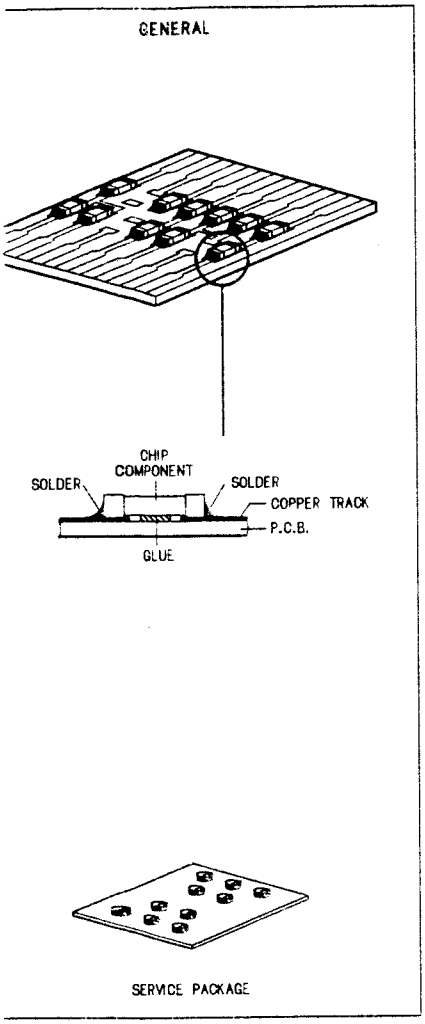
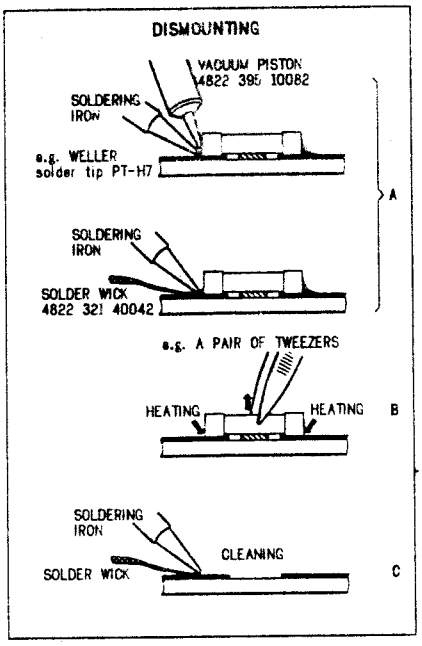
Subject to modification 4822 725 25146

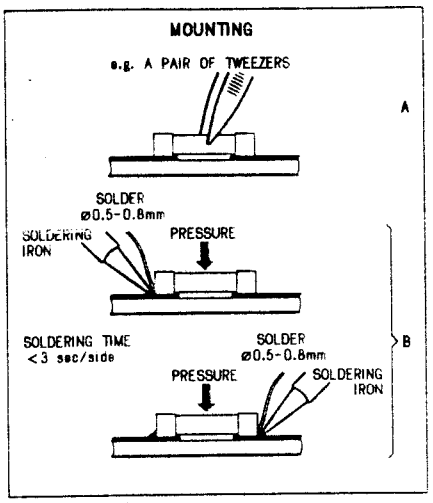
PCS 64 368

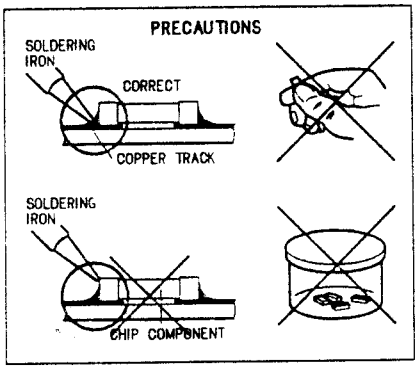
PHILIPS

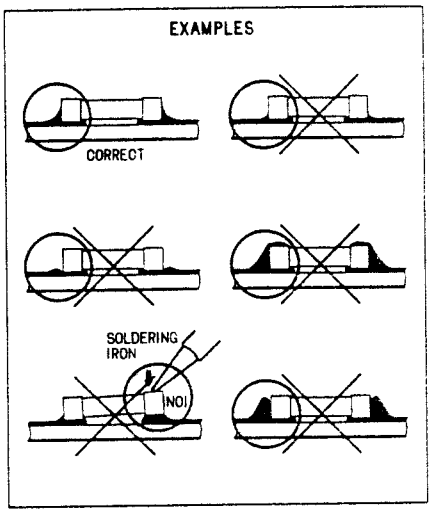
IDLING CHIP COMPONENTS











WARNING

and many other semiconductors are susceptible to static discharges (ESD). Careless handling during can reduce life drastically.
epairing, make sure that you are connected with the potential as the mass of the set via a wrist wrap with ice. Keep components and tools at this potential.

ATTENTION

s IC et beaucoup d autres semi-conducteurs sont es aux decharges statiques (ESD). Leur longevite t être considérablement ecourtee par le fait qu aucune tion nest prise à leur manipulation.
reparations, s assurer de bien être relie au meme el que la masse de l appareil et enfilezr le bracelet une resistance de sécurité.
a ce que les composants ainsi que les outils que l'on oient egalement a ce potentiel.

regulations require that the set be restored to its condition and that parts which are identical with pecified be used.

er Reparatur sind die geltenden Sicherheitsvor- n zu beachten. Der Originalzustand des Gerätes nt verändert werden. Für Reparaturen sind Original- eile zu verwenden.

/arning !

laserstrahlung nar apparaten ar oppnad och spärren oplad. Betrakta ej stralen.

otre securite, ces documents doivent être utilisés par cialistes agrees, seuls habilités a reparer votre il en panne".

ESD

(D) WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfaltige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.
Sorgen Sie dafür, daß sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.
Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

(I)
Le norme di sicurezza estigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.

(F)
Les normes de sécurité exigent que l'appareil soit remis à l'etat d origine et que soient utilisees les pieces de rechange identiques à celles specifiées.

(DK) Advarsel !

Usynlig laserstraling ved åbning nar sikkerhedsafbrydere er ude af funktion. Undga udsaettelse for straling.

(NL) WAARSCHUWING

Alle IC s en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen vermindern. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(I) AVVERTIMENTO

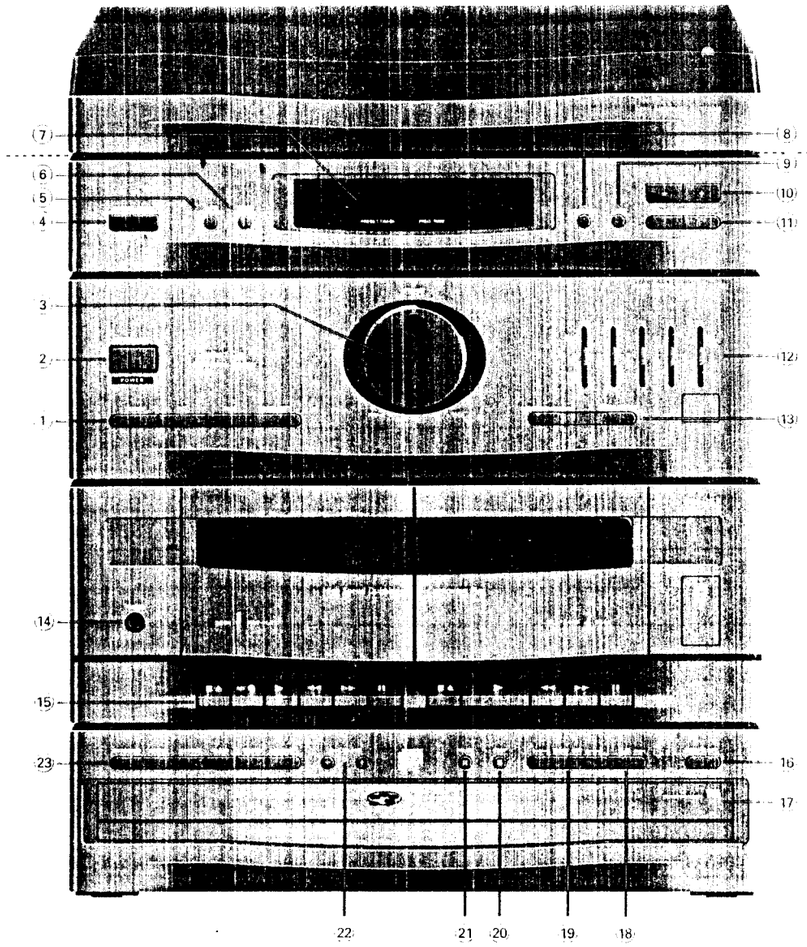
Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevita potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparationi occorre quindi essere collegato allo stesso potenziale che quello della massa delápparecchio tramite un bracciaietto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

(NL)
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

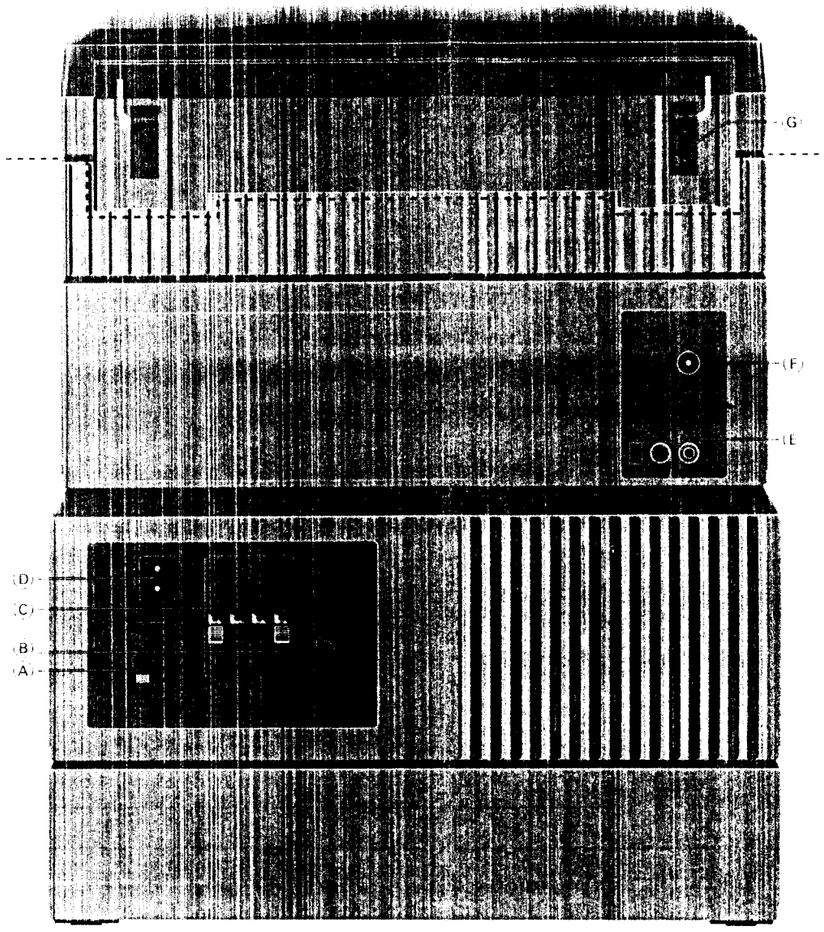
(SF) Varoitus !

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisateilylle. Älä katso säteeseen !

3



3a

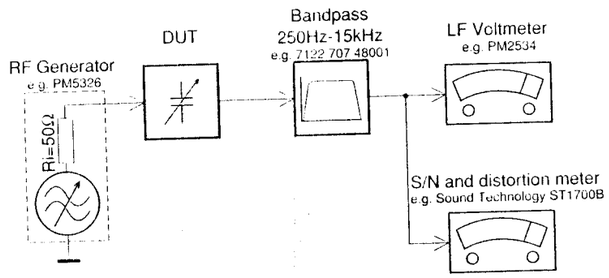


Connections & Controls

1	Source selector	
	Tuner	1440
	CD	1438
	Tape	1444
	Phono/Aux	1437
2	Standby	1439
3	Volume	3480
4	Remote Sensor	7422
5	Auto Program	1436
6	Mono/Stereo	1448
7	Display	1415
8	Program (Tuner)	1435
9	Band	1434
10	Presets	
	Up	1425
	Down	1426
11	Tuning	
	Up	1421
	Down	1422
12	Graphic Equalizer	
	100Hz/DBB	3485
	300kHz	3484
	1kHz	3483
	4kHz	3482
	10kHz	3481
13	High Speed Dubbing	1433
	Ferro/Chrome	1423
14	Headphone socket	1410
15	Tape transport keys	
16	Open/Close (CD)	1456
17	CD Tray	
18	Play (CD)	1457
19	Track skip (CD)	
	⏮	1454
	⏭	1455
20	Stop (CD)	1450
21	Pause (CD)	1451
22	Disc Select	
	Disc Select +	1460
	Disc Select -	1461
23	Disc Features	
	Program	1459
	Review	1458
	Clear	1462
	Shuffle	1463
	Repeat	1453
	Introscan	1452
A	Voltage selector	1260
B	Phono supply	1305
C	Speaker terminal	1304
D	Mains socket	1255
E	Aux/Phono sockets	1408
F	FM aerial socket for ECO4 Tuner	1101
	FM aerial socket for Tuner 92	1110

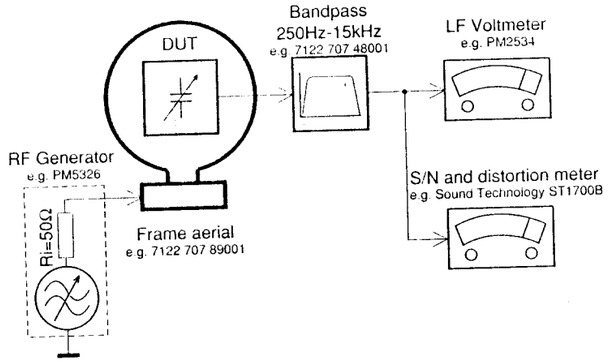
Measurement setup

Tuner FM



Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilottone (19kHz, 38kHz).

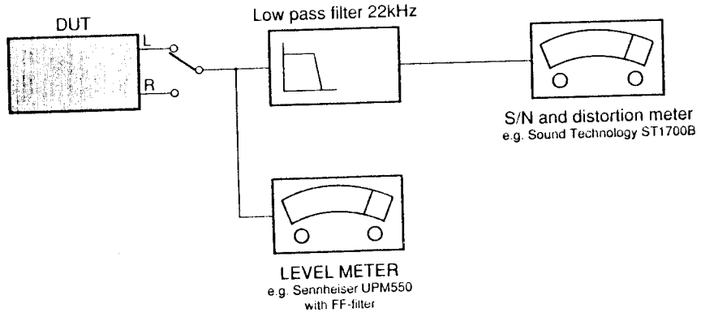
Tuner AM (MW,LW)



To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday´s cage.
Use a bandpass filter (or at least a high pass filter with 250Hz) to eliminate hum (50Hz, 100Hz).

CD

Use Audio Signal Disc SBC429 4822 397 30184 (replaces test disc 3)
L.P.F. = 13 th order filter 4822 395 30204



DUT ..... Device Under Test

Version table (Quick reference)

	AS650 /20	AS650 /20B	AS650 /21	AS650 /22	AS650 /25	AS655 /21	AS655 /30
Mains cord							
4822 321 11074					x		
4822 321 10831	x	x	x	x		x	x
Mains transformer							
4822 146 31244	x	x		x	x		
4822 146 31246			x			x	x
Mains socket							
4822 265 31015	x	x	x	x	x	x	x
Voltage selector							
4822 272 10269			x			x	x
IR Remote control							
4822 218 10513	x	x	x	x	x	x	x
Loudspeaker box							
4822 445 10362	x			x	x		
4822 445 10415			x			x	x
4822 445 10366		x					
Tuner							
ECO4 Tuner	x	x	x		x	x	x
Tuner 92				x			
Record player							
DL-40						x	x
Micro Mix function							
available							

Service tools

TORX screwdriver set SBC 163	4822 395 50145
Audio signal disc SBC 429	4822 397 30184
Test disc 5 (disc without errors)	
Test disc 5A (disc with dropout errors, black spots and finger prints) SBC 426/426A	4822 397 30096
Burn-in Test disc (65min. 1kHz signal at -30dB level without "pause")	4822 397 30155
Universal test cassette Ferro SBC 420	4822 397 30071
Universal test cassette Chrome SBC 419	4822 397 30069

SERVICE POSITION for
Servicing Front, Recorder Board and Tape transports

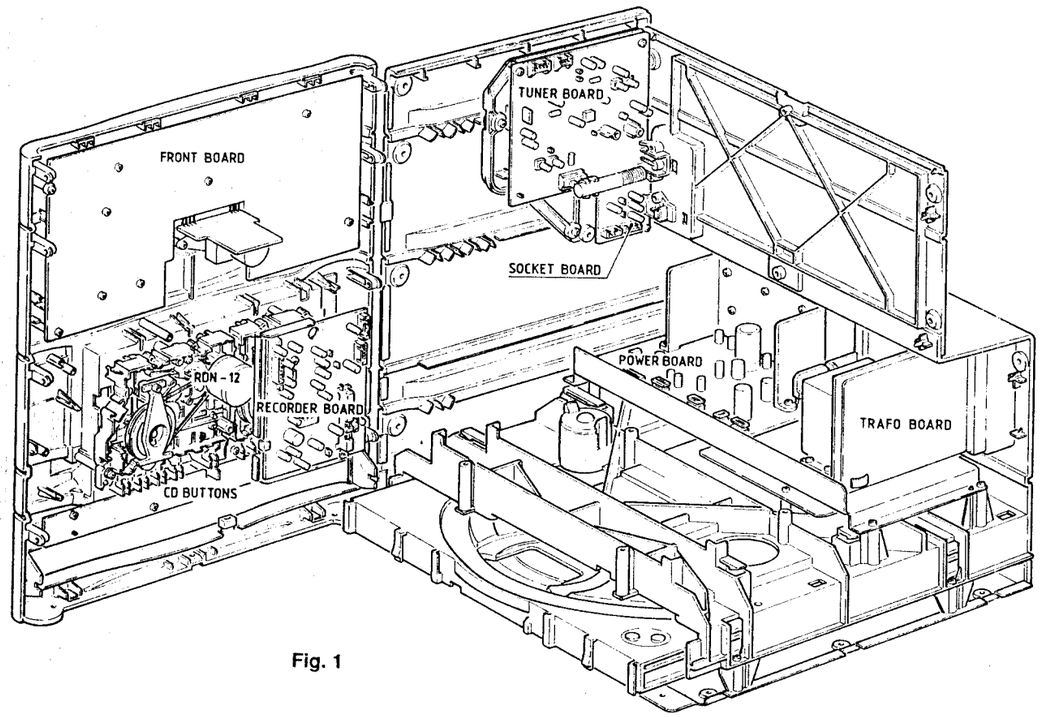


Fig. 1

1) Remove top cover as shown in picture 1.
2) Remove front of CD tray as shown in Fig. 2.
3) Remove right side of cabinett (11 screws).
4) Remove front (7 screws) and turn whole front aside as shown in Fig. 1.

Dismantling Front of CD Tray

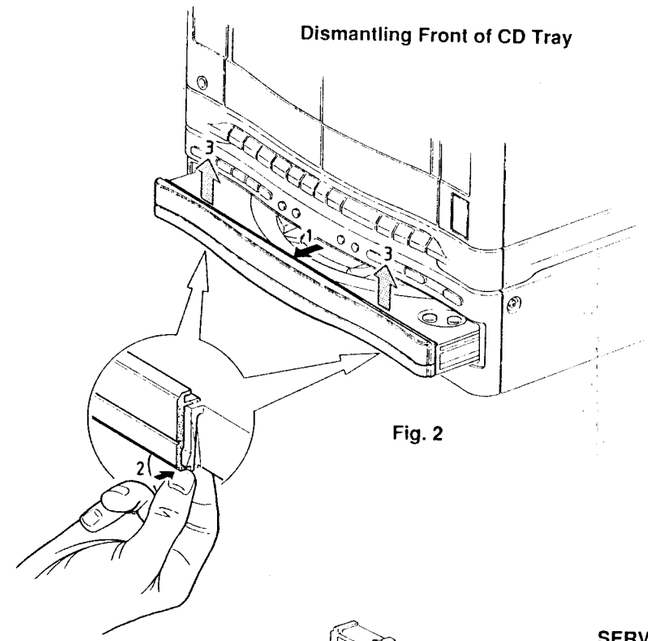
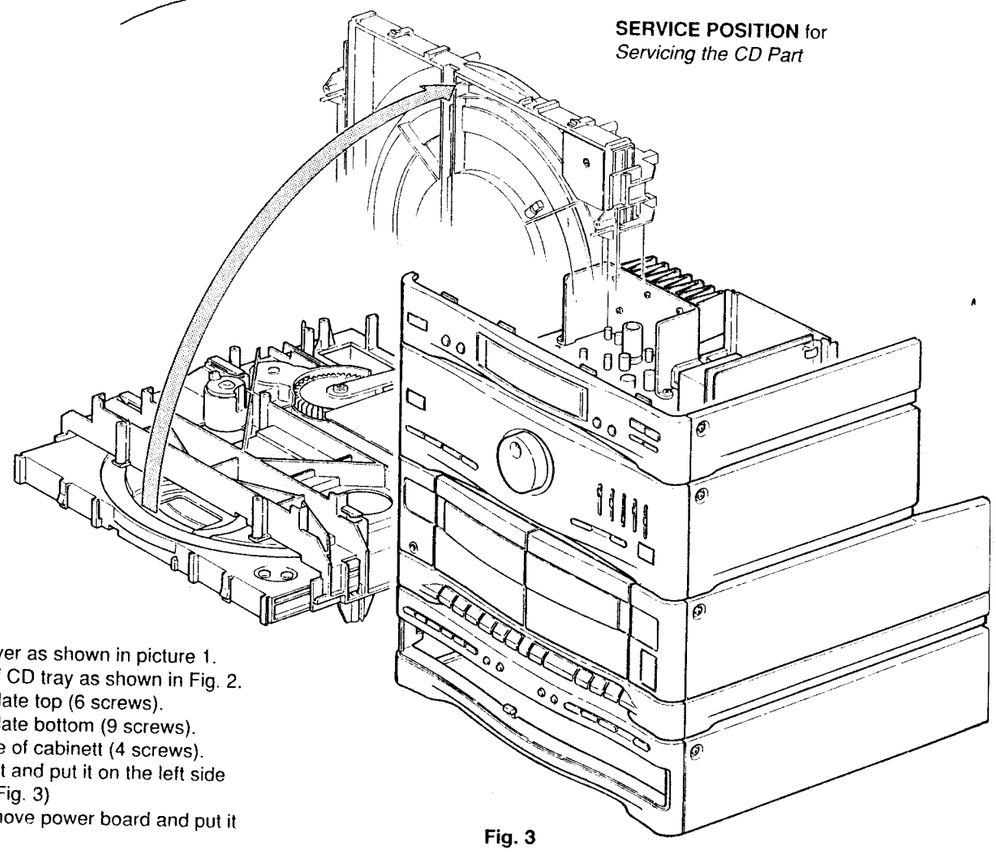


Fig. 2

SERVICE POSITION for
Servicing the CD Part



1) Remove top cover as shown in picture 1.
2) Remove front of CD tray as shown in Fig. 2.
3) Remove back plate top (6 screws).
4) Remove back plate bottom (9 screws).
5) Remove left side of cabinett (4 screws).
6) Remove CD part and put it on the left side of the set. (see Fig. 3)
7) If necessary remove power board and put it behind the set.

Fig. 3

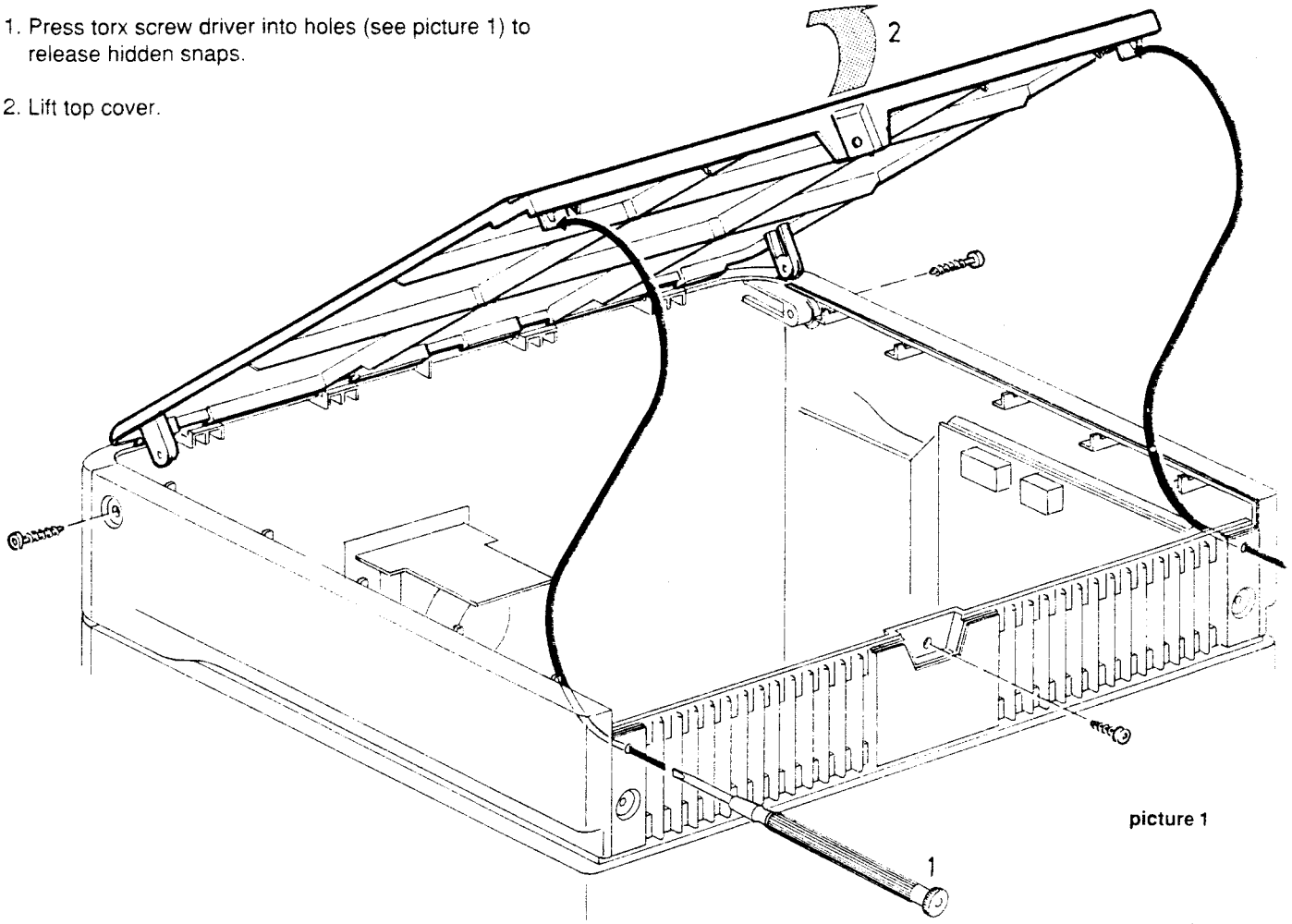
Dismantling Hints

Dismantling of Top Cover

Remove 3x screws.

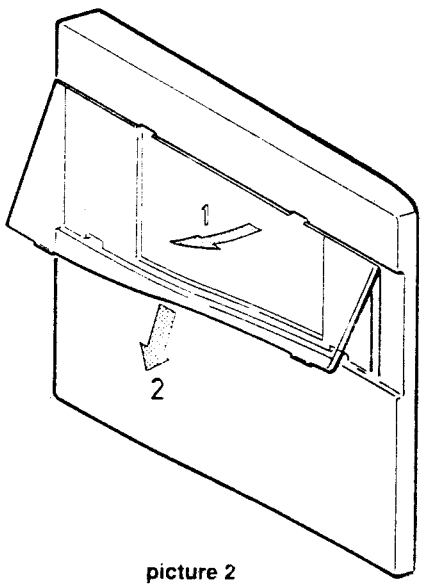
1. Press torx screw driver into holes (see picture 1) to release hidden snaps.

2. Lift top cover.



picture 1

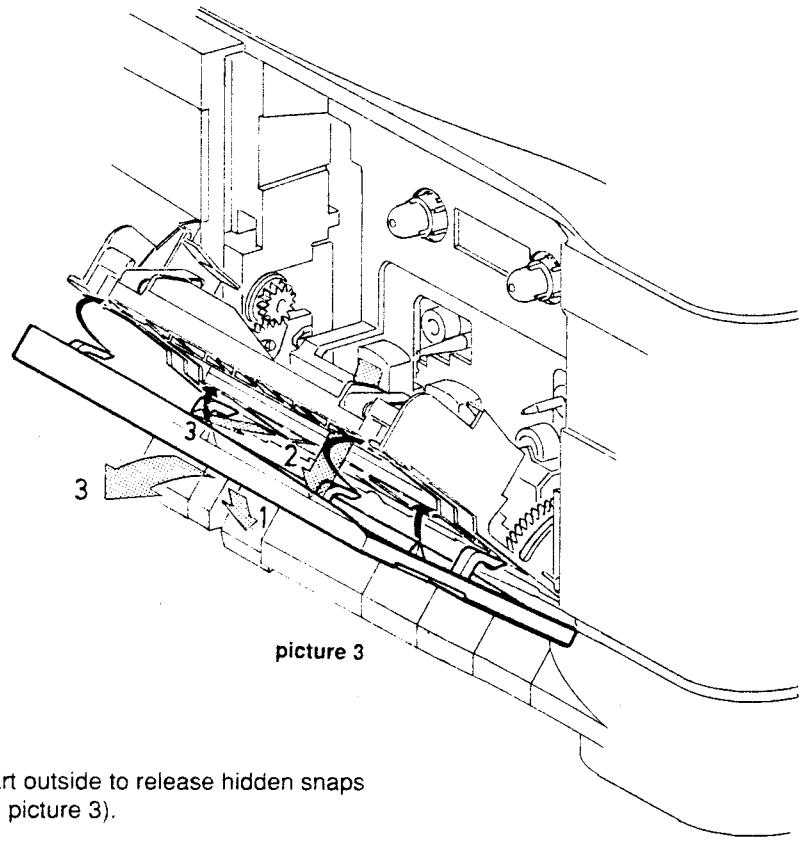
Dismantling Window of Cassette Door



picture 2

1) Press the window outside as shown in picture 2. You don't need any tool.

Dismantling Cassette Door Ornamental Part



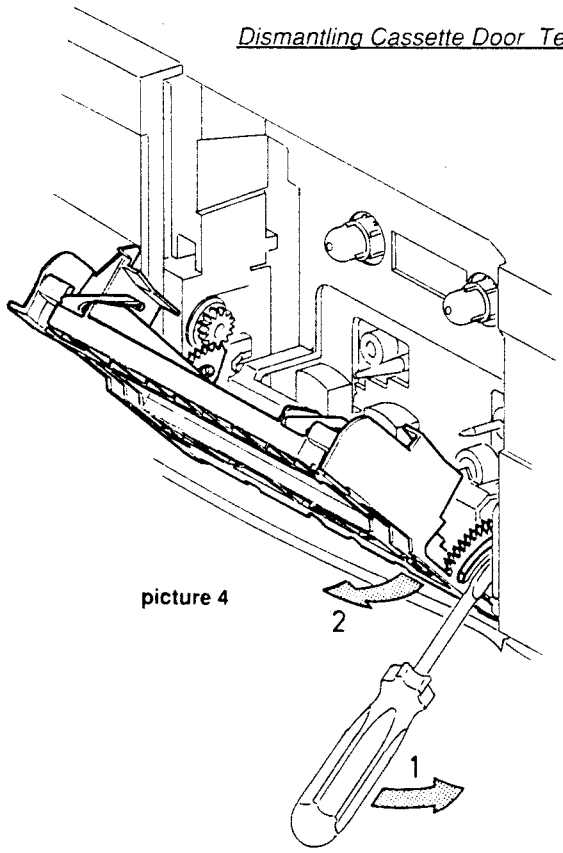
picture 3

1) Open cassette door.

2) Press ornamental part outside to release hidden snaps (see black arrows on picture 3).

3) Pull ornamental part upwards.

Dismantling Cassette Door Technical Part



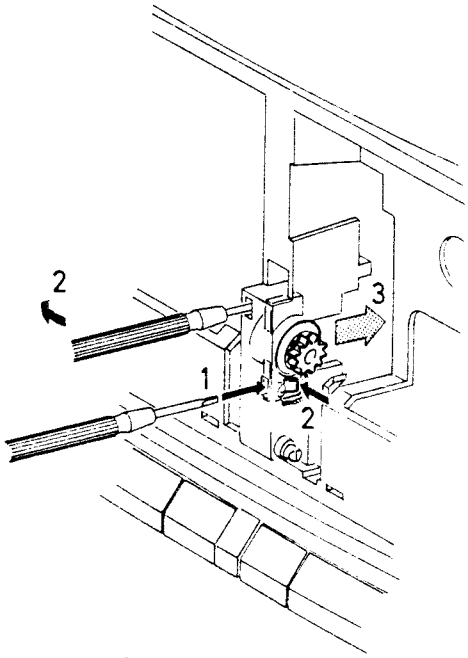
picture 4

Remove ornamental part first.

1) Bend tooth segment with a screw driver to release snap as shown in picture 4.

2) Pull cassette door outside.

Dismantling of Damper



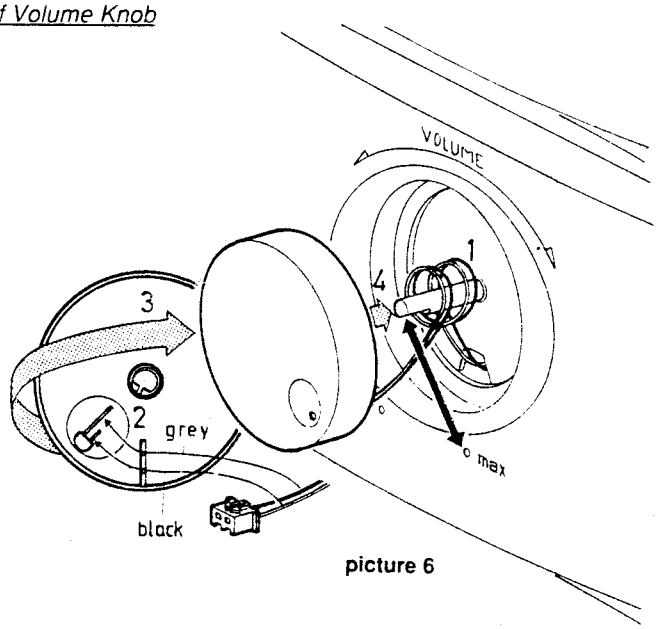
picture 5

Remove Tape Transports and bracket (506) first.

1+2) Release two snaps as shown in picture 5.

3) Pull damper outside.

Mounting of Volume Knob



picture 6

1) Turn Volume pot to max. (clockwise)

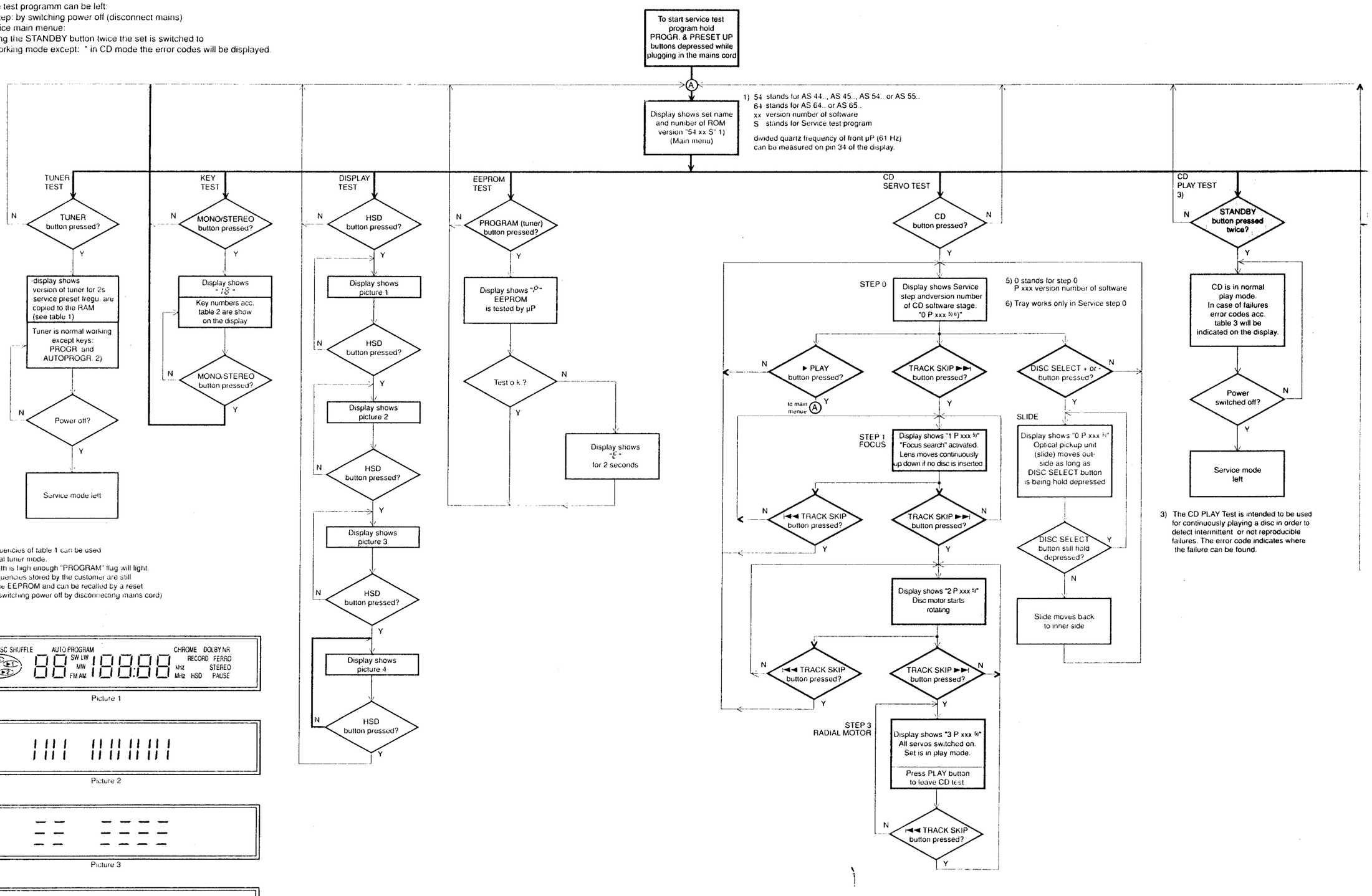
2) Pay attention to the polarity of the LED.

3) Turn the cable two times clockwise onto the axle.

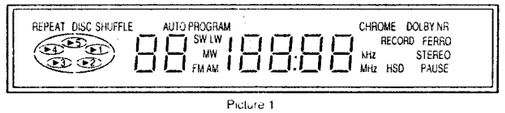
4) Insert the knob.

SERVICE TEST PROGRAM

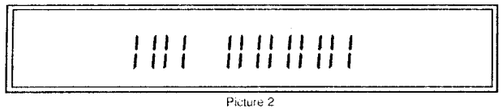
The service test programm can be left:
– at each step: by switching power off (disconnect mains)
– from service main menue:
by pressing the STANDBY button twice the set is switched to normal working mode except: * in CD mode the error codes will be displayed.

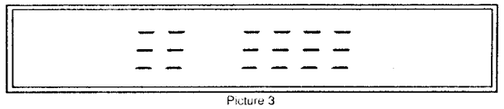

To start service test program hold PROGR. & PRESET UP buttons depressed while plugging in the mains cord
A
Display shows set name and number of ROM version "54 xx S" 1) (Main menu)
1) 54 stands for AS 44.., AS 45.., AS 54.. or AS 55..
64 stands for AS 64.. or AS 65..
xx version number of software
S stands for Service test program
divided quartz frequency of front µP (61 Hz) can be measured on pin 34 of the display.
TUNER TEST
TUNER button pressed?
N
Y
display shows version of tuner for 2s service preset regu. are copied to the RAM (see table 1)
Tuner is normal working except keys: PROGR and AUTOPROGR 2)
Power off?
Service mode left
KEY TEST
MONO/STEREO button pressed?
Display shows "18"
Key numbers acc. table 2 are show on the display
DISPLAY TEST
HSD button pressed?
Display shows picture 1
Display shows picture 2
Display shows picture 3
Display shows picture 4
EEPROM TEST
PROGRAM (tuner) button pressed?
Display shows "P" EEPROM is tested by µP
Test o.k.?
Display shows "E" for 2 seconds
CD SERVO TEST
CD button pressed?
STEP 0
Display shows Service step andversion number of CD software stage. "0 P xxx 5) 6)"
5) 0 stands for step 0
P xxx version number of software
6) Tray works only in Service step 0
► PLAY button pressed?
to main menue
TRACK SKIP ►►| button pressed?
DISC SELECT + or - button pressed?
STEP 1 FOCUS
Display shows "1 P xxx 5)" "Focus search" activated. Lens moves continuously up down if no disc is inserted
SLIDE
Display shows "0 P xxx 5)" Optical pickup unit (slide) moves outside as long as DISC SELECT button is being hold depressed
|◄◄ TRACK SKIP button pressed?
DISC SELECT button still hold depressed?
Slide moves back to inner side
Display shows "2 P xxx 5)" Disc motor starts rotating
STEP 3 RADIAL MOTOR
Display shows "3 P xxx 5)" All servos switched on. Set is in play mode.
Press PLAY button to leave CD test
CD PLAY TEST 3)
STANDBY button pressed twice?
CD is in normal play mode. In case of failures error codes acc. table 3 will be indicated on the display.
Power switched off?
Service mode left
3) The CD PLAY Test is intended to be used for continuously playing a disc in order to detect intermittent or not reproducible failures. The error code indicates where the failure can be found.

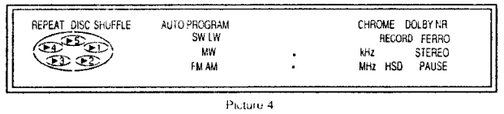
2) Preset frequencies of table 1 can be used as in normal tuner mode.
If fieldstregth is high enough "PROGRAM" flag will light.
Preset frequencies stored by the customer are still stored in the EEPROM and can be recalled by a reset of the µP (switching power off by disconnecting mains cord)



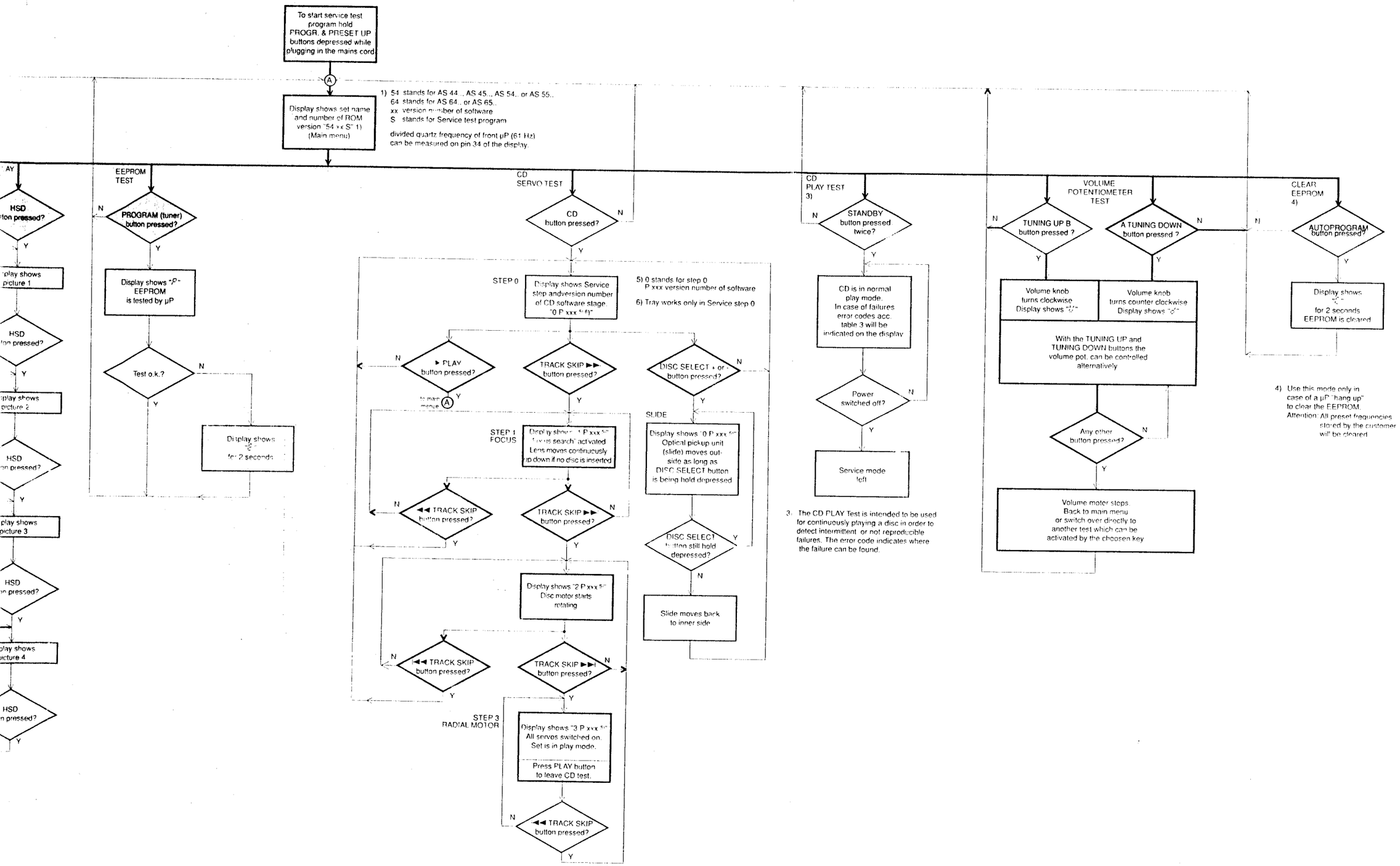
Picture 1


Picture 2


Picture 3



Picture 4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64 stands for AS 64.. or AS 65..
xx version number of software
S stands for Service test program
divided quartz frequency of front µP (61 Hz) can be measured on pin 34 of the display.
AY
HSD ton pressed?
play shows picture 1
HSD ton pressed?
play shows picture 2
HSD on pressed?
play shows picture 3
HSD on pressed?
play shows picture 4
HSD on pressed?
EEPROM TEST
PROGRAM (tuner) button pressed?
Display shows "P-" EEPROM is tested by µP
Test o.k.?
Display shows "E" for 2 seconds
CD SERVO TEST
CD button pressed?
STEP 0
Display shows Service step andversion number of CD software stage. "0 P xxx 5 6)"
5) 0 stands for step 0
P xxx version number of software
6) Tray works only in Service step 0
▶ PLAY button pressed?
TRACK SKIP ▶▶ button pressed?
DISC SELECT + or - button pressed?
to main menue
STEP 1 FOCUS
Display shows "1 P xxx 5" "Focus search" activated Lens moves continuously up down if no disc is inserted
SLIDE
Display shows "0 P xxx 5" Optical pickup unit (slide) moves outside as long as DISC SELECT button is being hold depressed
◀◀ TRACK SKIP button pressed?
TRACK SKIP ▶▶ button pressed?
DISC SELECT button still hold depressed?
Slide moves back to inner side
Display shows "2 P xxx 5" Disc motor starts rotating
I◀◀ TRACK SKIP button pressed?
TRACK SKIP ▶▶I button pressed?
STEP 3 RADIAL MOTOR
Display shows "3 P xxx 5" All servos switched on. Set is in play mode.
Press PLAY button to leave CD test.
◀◀ TRACK SKIP button pressed?
CD PLAY TEST 3)
STANDBY button pressed twice?
CD is in normal play mode. In case of failures error codes acc. table 3 will be indicated on the display
Power switched off?
Service mode left
3. The CD PLAY Test is intended to be used for continuously playing a disc in order to detect intermittent or not reproducible failures. The error code indicates where the failure can be found.
VOLUME POTENTIOMETER TEST
TUNING UP B button pressed ?
A TUNING DOWN button pressed ?
Volume knob turns clockwise Display shows "U"
Volume knob turns counter clockwise Display shows "d"
With the TUNING UP and TUNING DOWN buttons the volume pot. can be controlled alternatively
Any other button pressed?
Volume motor stops Back to main menu or switch over directly to another test which can be activated by the choosen key
CLEAR EEPROM 4)
AUTOPROGRAM button pressed?
Display shows "C" for 2 seconds EEPROM is cleared
4) Use this mode only in case of a µP "hang up" to clear the EEPROM. Attention: All preset frequencies stored by the customer will be cleared.

	VERSION						
	EUR	EAS	USA	EUS	OSE	OSS	
PRESET	Europe 3 band	East Europe 3 band	USA 2-band	Europe 4-band	Oversea 2 band	Oversea 3-band	UNIT
1	87,5	65,81	87,5	87,5	87,5	87,5	MHz
2	108	74	108	108	108	108	MHz
3	98	87,5	98	98	98	98	MHz
4	89,7	108	89.7	89,7	89,7	89,7	MHz
5	93	98	93	93	93	93	MHz
6	104,9	89,7	104,9	104,9	104,9	104,9	MHz
7	522	93	530	522	530	530	kHz
8	1611	104.9	1710	1611	1710	1710	kHz
9	540	522	540	540	540	540	kHz
10	549	1611	550	549	550	550	kHz
11	558	540	560	558	560	560	kHz
12	1494	549	1500	1494	1500	1500	kHz
13	153	558	1600	153	1600	1600	kHz
14	279	1494	1000	279	1000	3900	kHz
15	156	153		156		12100	kHz
16	198	279		198		4250	kHz
17	270	156		270		8000	kHz
18	999	198		5900		11900	kHz
19		270		18100		1000	kHz
20		999		6200			kHz
21				17000			kHz
22				12000			kHz
23				999			kHz

table 1

Key activated	Display shows	Key activated	Display shows
Tuning up	01	Autoprogram	17
Tuning down	03	Mono / Stereo	18
Preset up	04	Tuner	19
Preset down	02	Stand by	20
—	—	Tape	21
Band	06	Phono / Aux	22
Program(Tuner)	07	CD	23
Fe/Cr	08	—	—
Disc Select –	09	Track skip ≫	25
Disc Select +	10	—	—
Review	11	Open / Close	27
Program (CD)	12	Play (CD)	28
HS dubbing	13	Clear	29
Pause (CD)	14	Shuffle	30
≪ Track skip	15	Introscan	31
Stop (CD)	16	Repeat	32

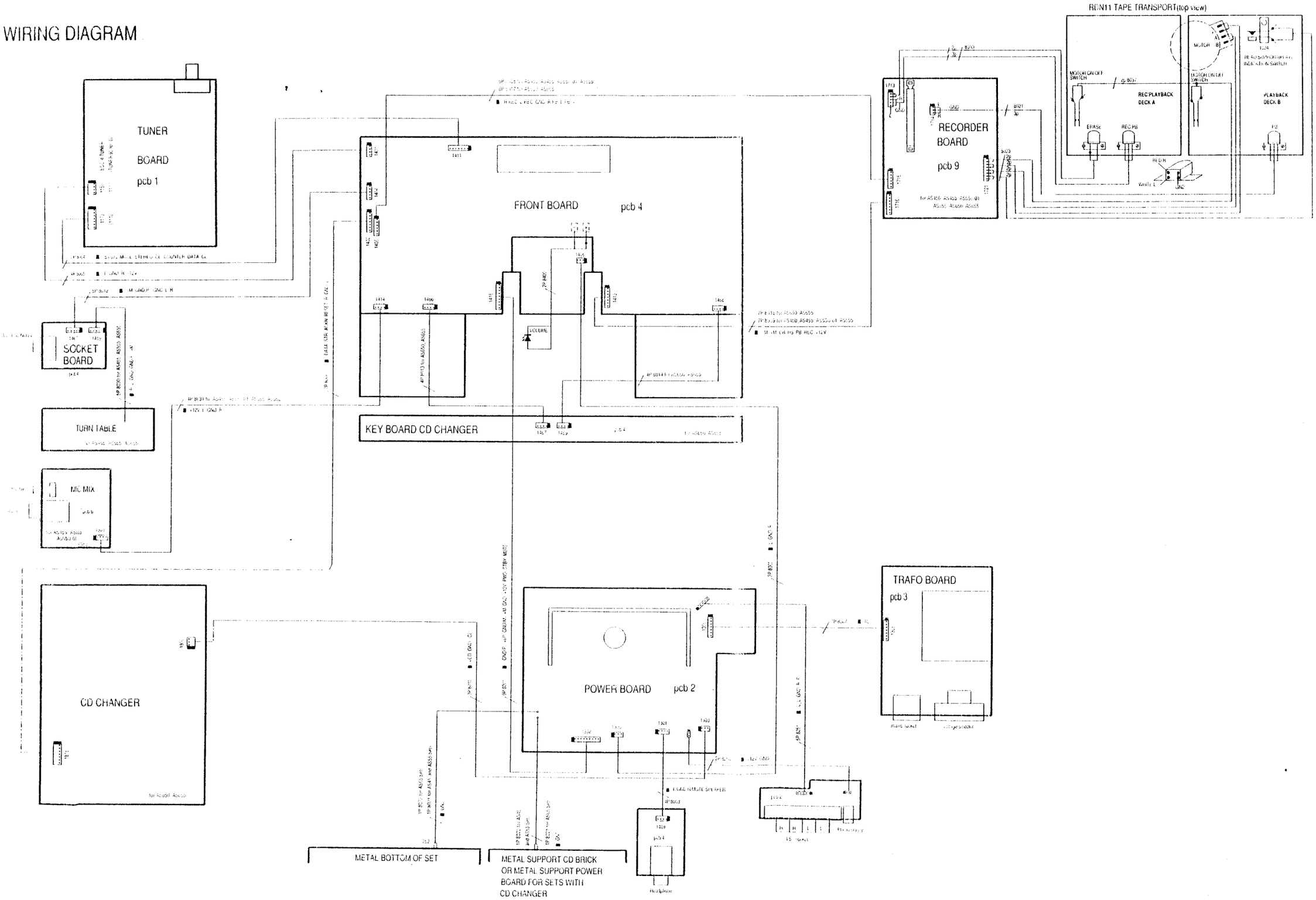
table 2

If a key is activated at the remote control, ⌐ ⊏ is shown additionally to the key number as long as the key is hold depressed.

Error code shown on the display	Description
2 Err	Focus error
7 Err	Subcode error, no valid subcode
8 Err	TOC error, out of lead-in area while reading TOC
9 Err	CD4 + decoder error
10 Err	Radial error
12 Err	Fatal sledge error
13 Err	Turntable motor error
30 Err	Too many grooves to jump
31 Err	Search time out error
32 Err	Search binary error
33 Err	Search index error (index not found)
34 Err	Search time error (relative time not found)
35 Err	Carousel error
50 Err	Edit calculation error
51 Err	Wrong disc
52 Err	Insert disc

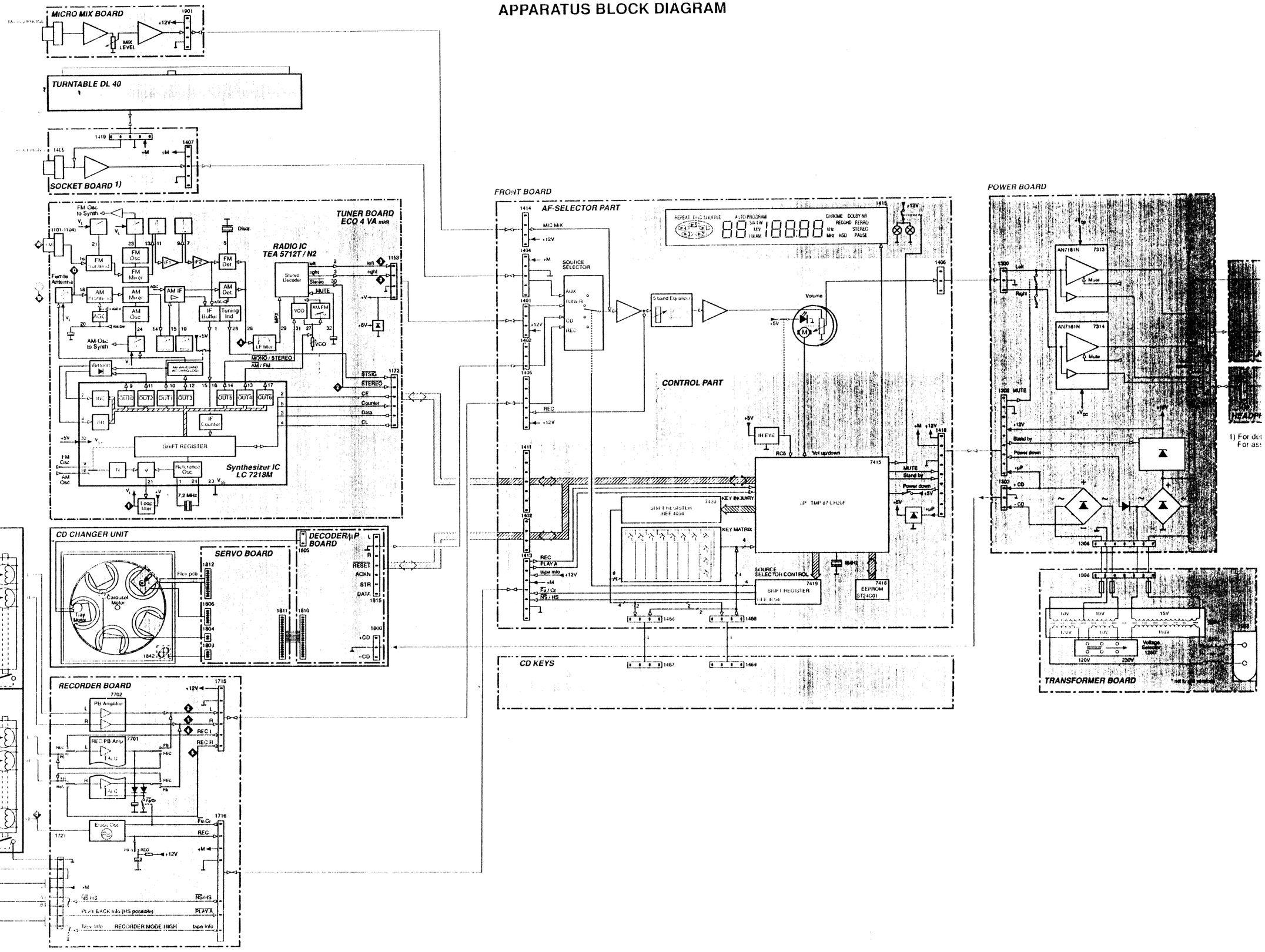
table 3

WIRING DIAGRAM

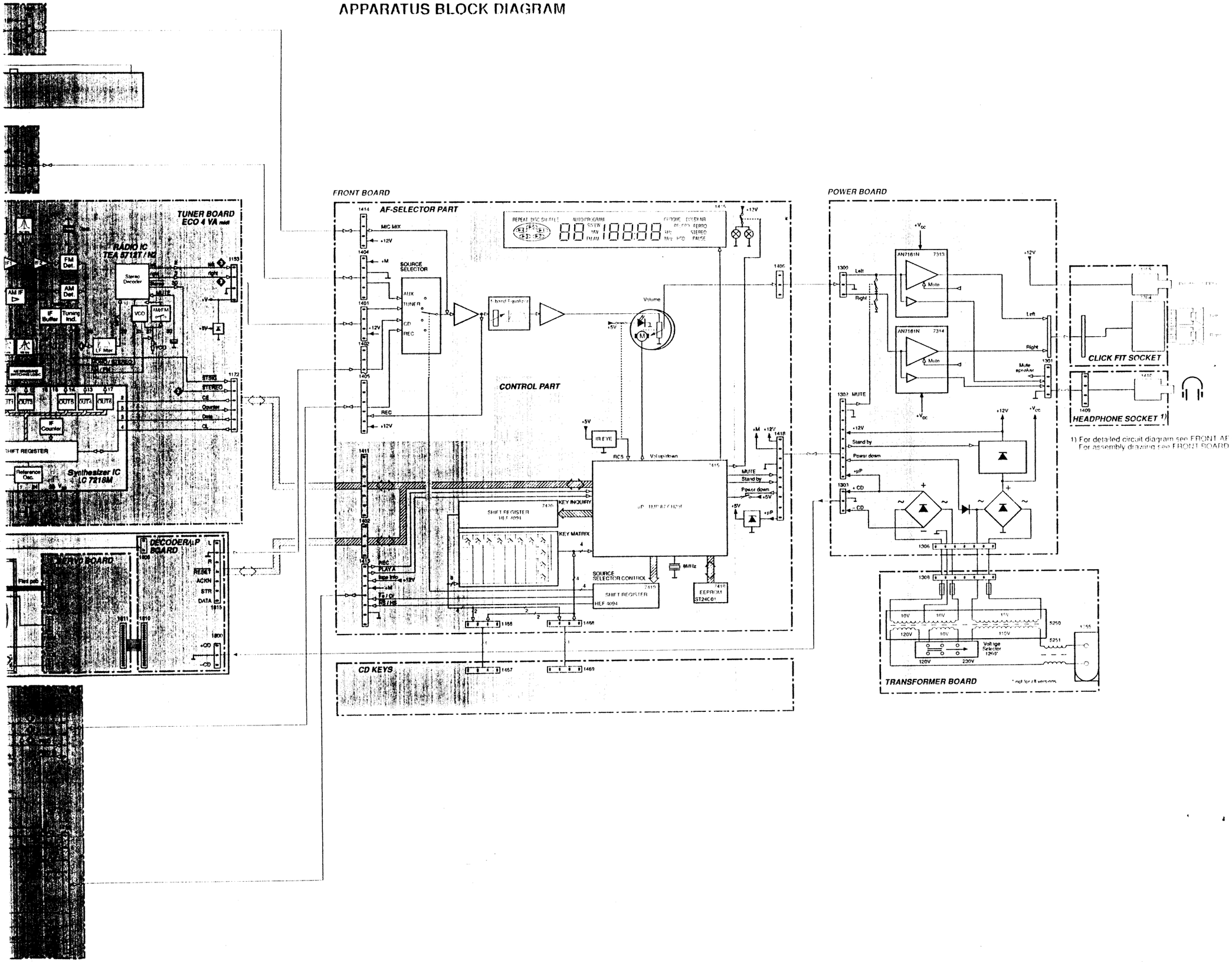


RCN11 TAPE TRANSPORT(top view)

APPARATUS BLOCK DIAGRAM

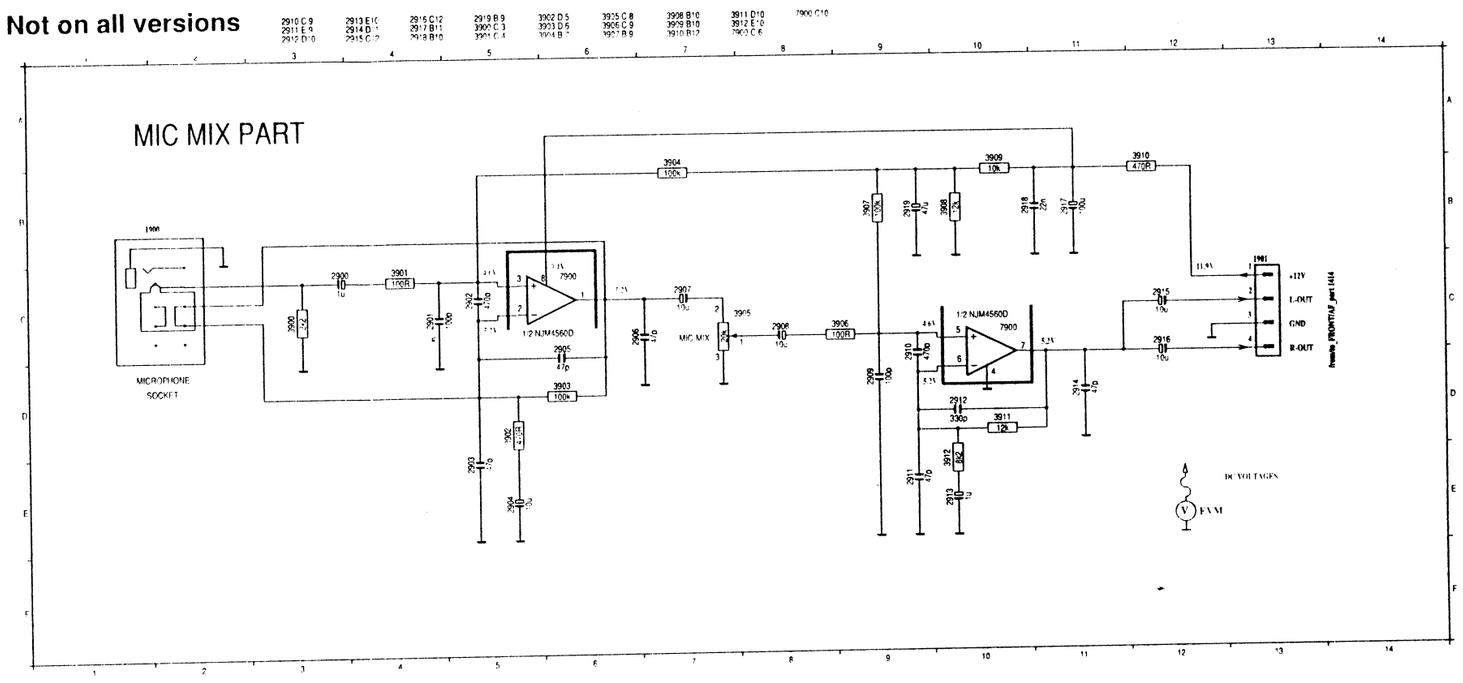


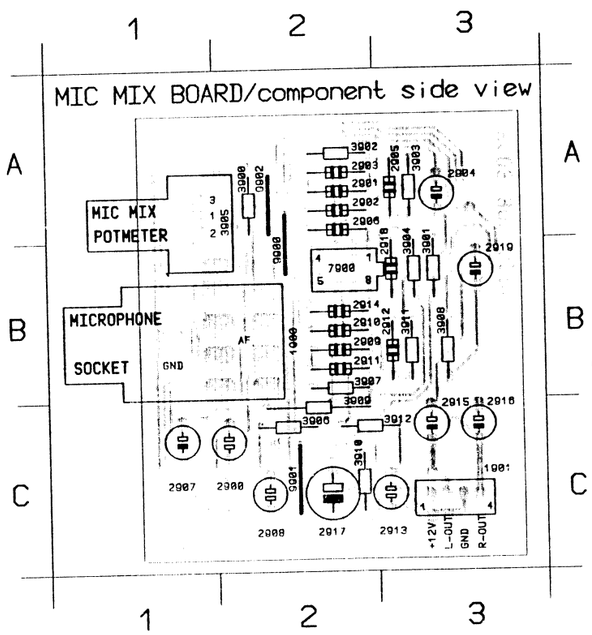
APPARATUS BLOCK DIAGRAM



1) For detailed circuit diagram see FRONT AF part
For assembly drawing see FRONT BOARD

Not on all versions





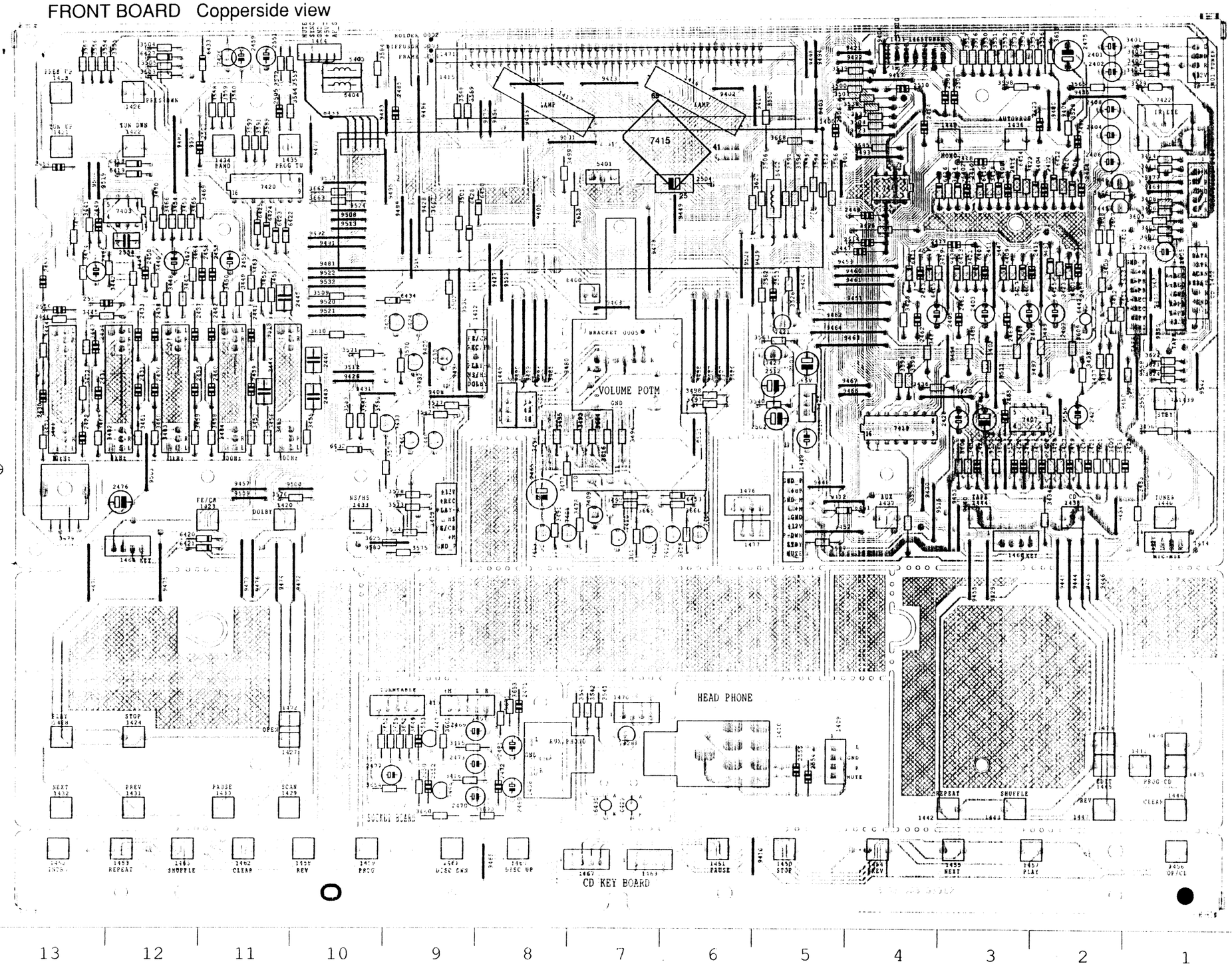
23

24

13 12 11 10 9 8 7 6 5 4 3 2 1

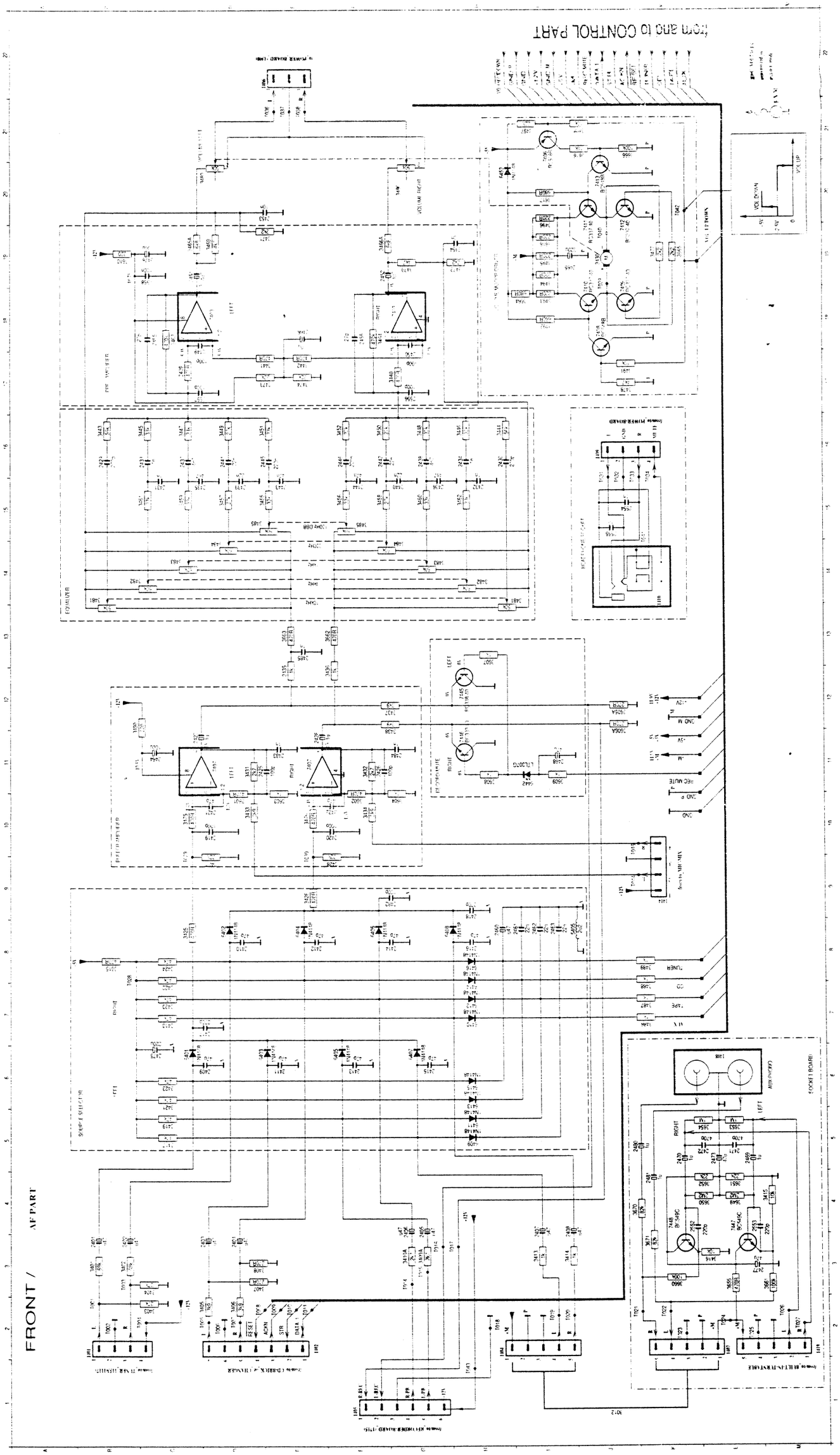
A B C D E F G H I J

FRONT BOARD Copperside view

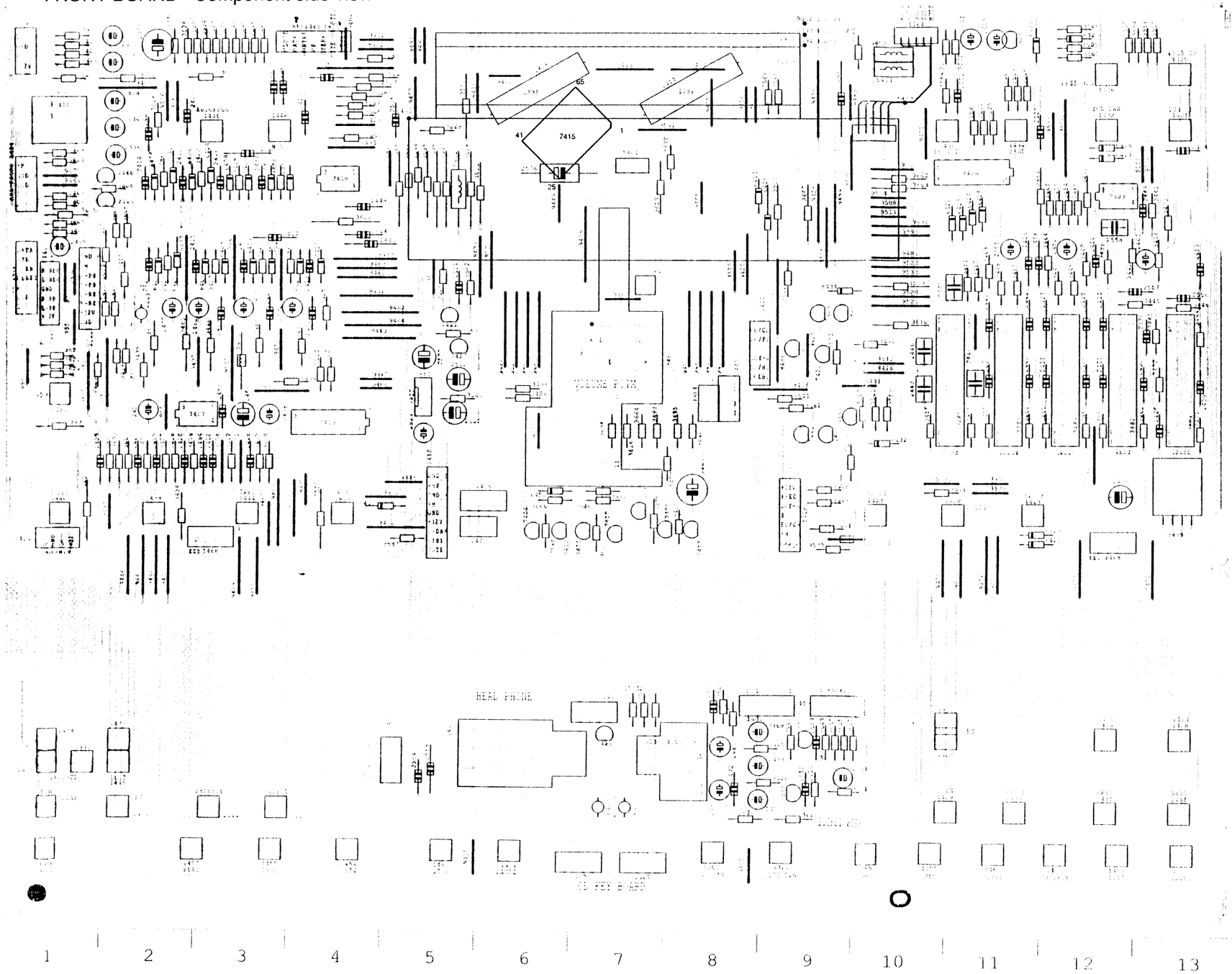


This assembly drawing shows a summary of all possible versions!
For components used in a specific version see schematic diagram respectively partslist

FRONT / AF PART



FRONT BOARD Component side view



This assembly drawing shows a summary of all possible versions!
For components used in a specific version see schematic diagram respectively partslist.

RECORDER ADJUSTMENT TABLE

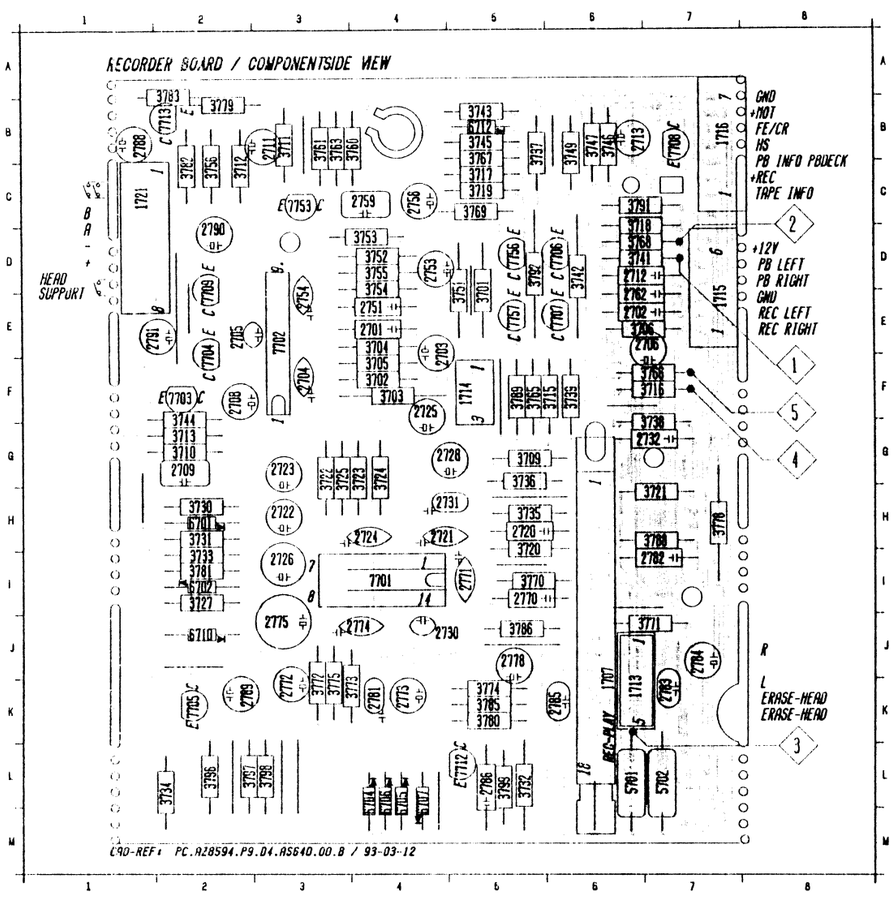
Adjustment	Cassette/Source	Recorde mode	Measure on	Read on	Adjust with	Adjust to
Azimuth [1]	SBC 420 8kHz	PLAY A-Deck PLAY B-Deck	◇1◇ ◇2◇ or Phone socket	mV - meter	left-hand screw	maximum output left = right
Motor speed [2]						
Normal speed	SBC 420 3150 Hz	PLAY A + B-Deck HS-Dubbing	◇1◇ ◇2◇ or Phone socket	Wow and Flutter meter or Counter	pot on motor	0±1%
High speed [4]				Counter	check only	5556-5783Hz

CHECK ONLY

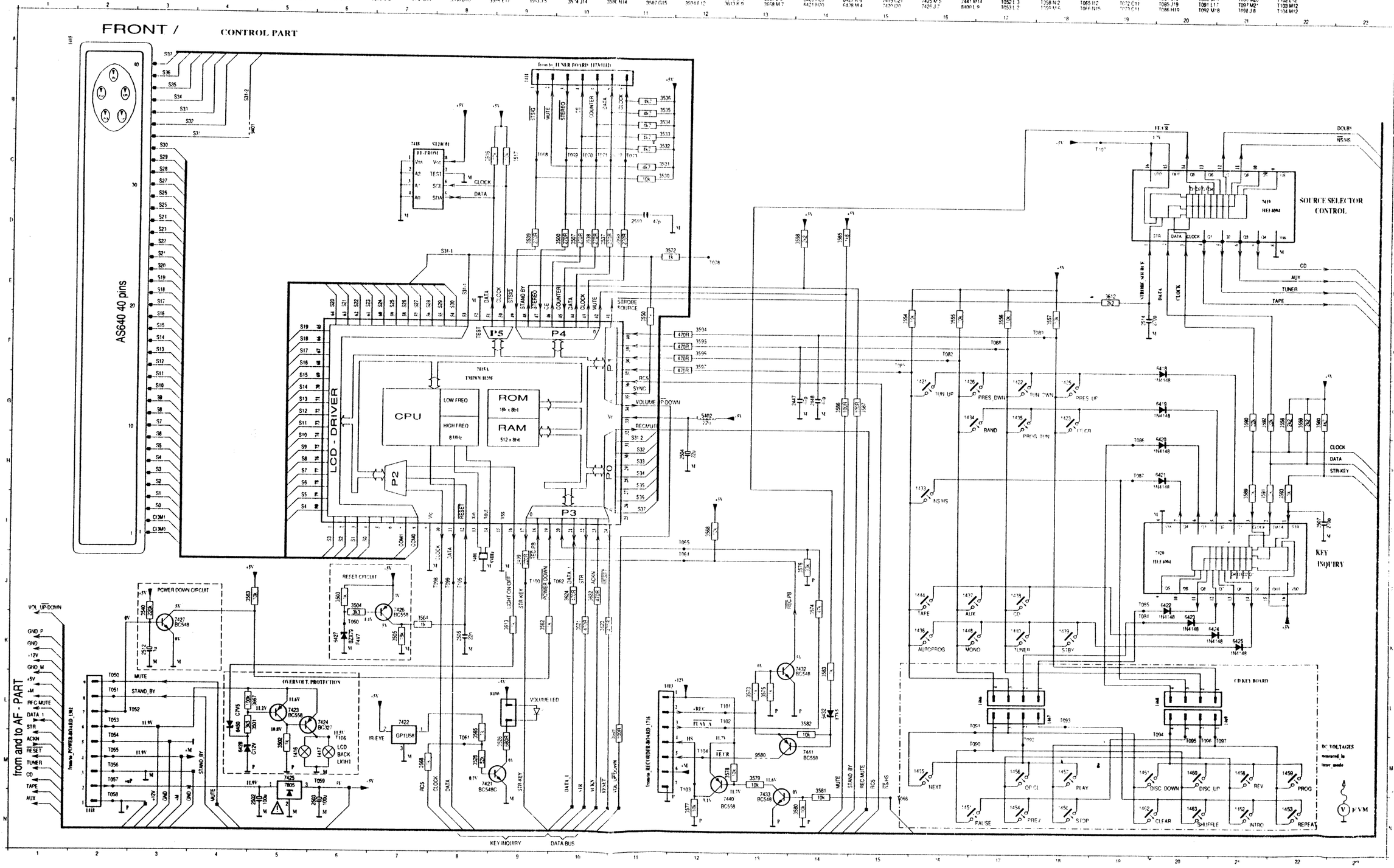
Check	Cassette/Source	Recorder mode	Measure on	Read on	Check if
Wow and Flutter	SBC 420 3150Hz	PLAY A or B-Deck	◇1◇ ◇2◇ or Phone socket	Wow and Flutter meter	≤ 0,3% weighted
		PLAY A and B-Deck			≤ 0,35% weighted
Erase Oscillator					
Voltage	any	REC A deck	◇3◇ Erase head	mV - meter Counter	Cr ≥ 9,8Vrms Fe ≥ 20,8 Vrms
Frequency					f = 60kHz ± 5kHz
Playback level [3]	SBC420 315Hz 0dB level	PLAY A-Deck[5] PLAY B Deck[5]	◇1◇ ◇2◇	mV - meter	41 mV - 57 mV 41 mV - 57 mV
Frequency reponse Playback	SBC420	PLAY A or B-Deck[5]	◇1◇ ◇2◇	mV - meter	125 Hz - 10 kHz within 8dB
Overall	Level = 0,5mV ◇4◇ ◇5◇	REC A-Deck[5] PLAY A-Deck[5]	◇1◇ ◇2◇	mV - meter	125 Hz - 10 kHz within 8dB 125 Hz - 8 kHz dubbing
Distortion	SBC 420 Level = 10mV ◇4◇ ◇5◇	REC A-Deck[5] PLAY A-Deck[5]	◇1◇ ◇2◇	mV - meter	50 mV ± 10 mV, D ≤ 5%

SBC 420 Service code: 4822 397 30071

1) For Azimuth adjustment set need not to be dismantled. Remove ornamental part of cassette door and put screwdriver (torx5) through holes of cassette door.
2) Absolute difference between deck A and deck B have to be ≤2%.
3) Noise level in "PAUSE" should be 80 - 180µV (A-weighted).
4) Insert SBC420 in A-Deck and use High speed dubbing mode to check frequency.
5) Recorder has to be in Fe- Mode



1707 J6	3711 B3	3783 A2
1713 K6	3712 C2	3785 K5
1714 F5	3713 G2	3786 J5
1715 E7	3715 F6	3786 H7
1716 B7	3716 F7	3789 F5
1721 C1	3717 C5	3791 C6
2701 E4	3718 D6	3792 D5
2702 E6	3719 C5	3796 L2
2703 E4	3720 H5	3797 L2
2704 F3	3721 H7	3798 L3
2705 E2	3722 G3	3799 L5
2706 E7	3723 G4	5701 L6
2708 F2	3724 G4	5702 L7
2709 G2	3725 G3	6701 H2
2711 B3	3727 I2	6702 I2
2712 D6	3730 H2	6704 L4
2713 B6	3731 H2	6705 L4
2720 H5	3732 L5	6706 L4
2721 H4	3733 I2	6707 L4
2722 H3	3734 L2	6710 J2
2723 G3	3735 H5	6712 B5
2724 H4	3736 G5	7701 I4
2725 F4	3737 B5	7702 E3
2726 I3	3738 G7	7703 F2
2728 G5	3739 F6	7704 E2
2730 J4	3741 D6	7705 K2
2731 H5	3742 D6	7706 D6
2732 G7	3743 B5	7707 E6
2751 E4	3744 F2	7708 B7
2753 D4	3745 B5	7709 D2
2754 E3	3746 B6	7712 L5
2758 C4	3747 B6	7713 B2
2759 C4	3749 B6	7753 C3
2762 E6	3751 D5	7756 D5
2770 I5	3752 D4	7757 E5
2771 I5	3753 D4	9701 L7
2772 K3	3754 D4	9702 L6
2773 K4	3755 D4	9705 L4
2774 J4	3756 C2	9706 J2
2775 J3	3760 B4	9707 H1
2778 J5	3761 B3	9708 D5
2781 K4	3763 B3	9709 E2
2782 I7	3765 F5	9711 J5
2783 K7	3766 F7	9712 I6
2784 J7	3767 B5	9713 I5
2785 K6	3768 D6	9714 I4
2786 L5	3769 C5	9715 I4
2788 B1	3770 I5	9716 H5
2789 K2	3771 J7	9717 B3
2790 D2	3772 K3	9722 F5
2791 E2	3773 K3	9723 F6
3701 D5	3774 K5	9727 L3
3702 F4	3775 K3	9731 E2
3703 F4	3778 H7	9732 L2
3704 E4	3779 B2	9735 L3
3705 F4	3780 K5	9741 B6
3706 E6	3781 I2	
3709 G5	3782 C2	
3710 G2		


FRONT / CONTROL PART
AS640 40 pins
LCD - DRIVER
CPU
LOW FREQ
HIGH FREQ
8 MHz
ROM
16k x 8bit
RAM
512 x 8bit
P0
P1
P2
P3
P4
P5
EEPROM
SOURCE SELECTOR CONTROL
KEY INQUIRY
POWER DOWN CIRCUIT
RESET CIRCUIT
OVERVOLT. PROTECTION
VOLUME LED
LCD BACK LIGHT
IR EYE
CD KEY BOARD
DC VOLTAGES measured in tuner mode
from and to AF - PART
KEY INQUIRY
DATA BUS

PCS 64.277

RECORDER BOARD

RIGHT CHANNELS

LEFT CHANNELS

ERASE OSCILLATOR

ALC LEVEL SWITCH

DECK A

DECK B

MUTE DECK A

MUTE DECK B

TO FRONT BOARD

CONTROL PART 1413

AF PART 1405

REC RIGHT

REC LEFT

GND

RIGHT OUT PB

LEFT OUT PB

+12V

TAPE MODE + H

TAPE INFO

+REC

PB INFO

HIGHSPEED POSSIBLE + L

HIGHSPEED + H

HIGH SPEED

Chrome + H

REAR (only for AS640)

+MOT

GND MOT

TAPE DECKS

MOTOR CONTROL

HEAD SUPPORT INDICATION

PB DECK B

ERASE HEAD

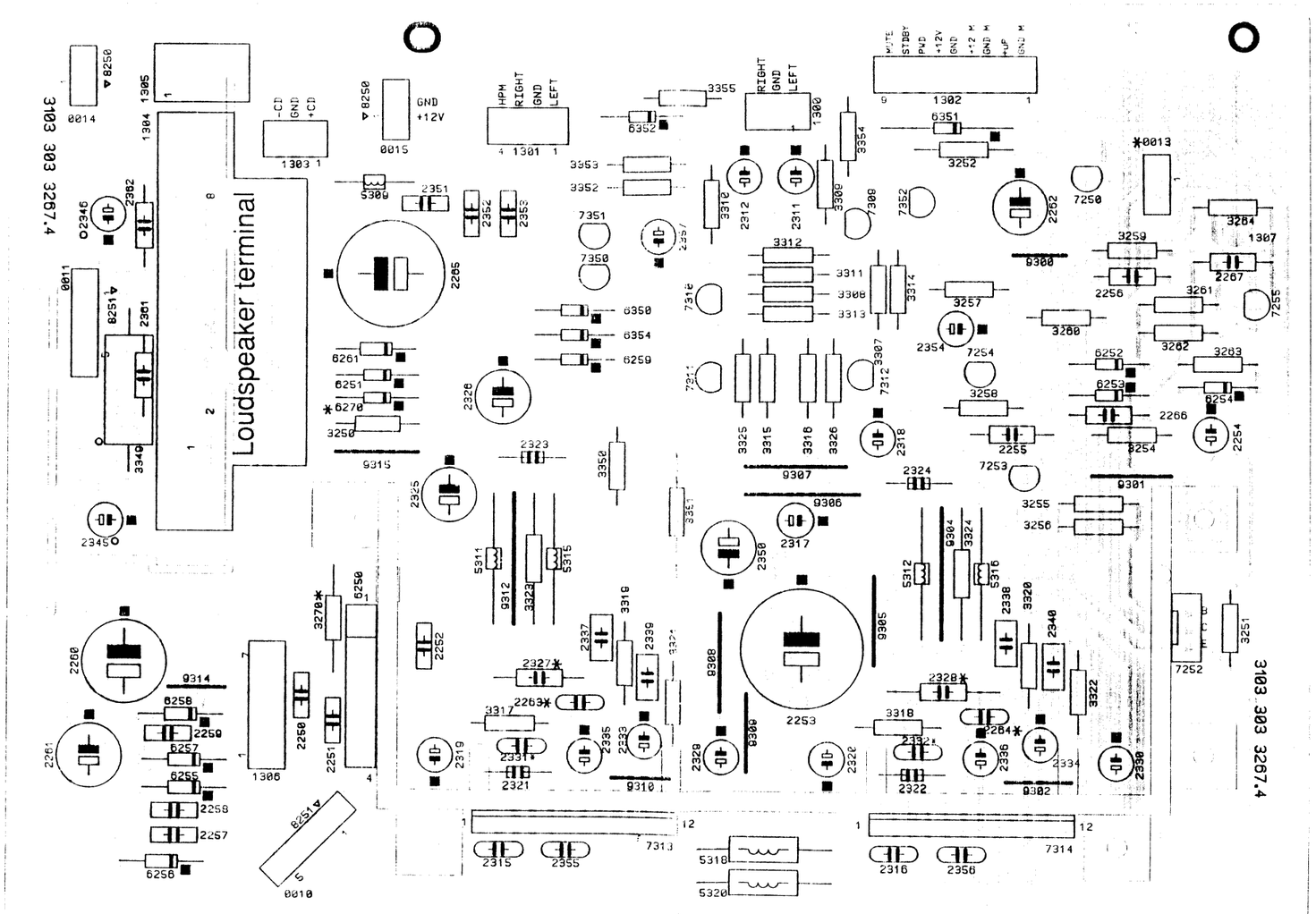
NSTIS switch

* NOT USED COMPONENTS

FOR ALL TRANSISTORS

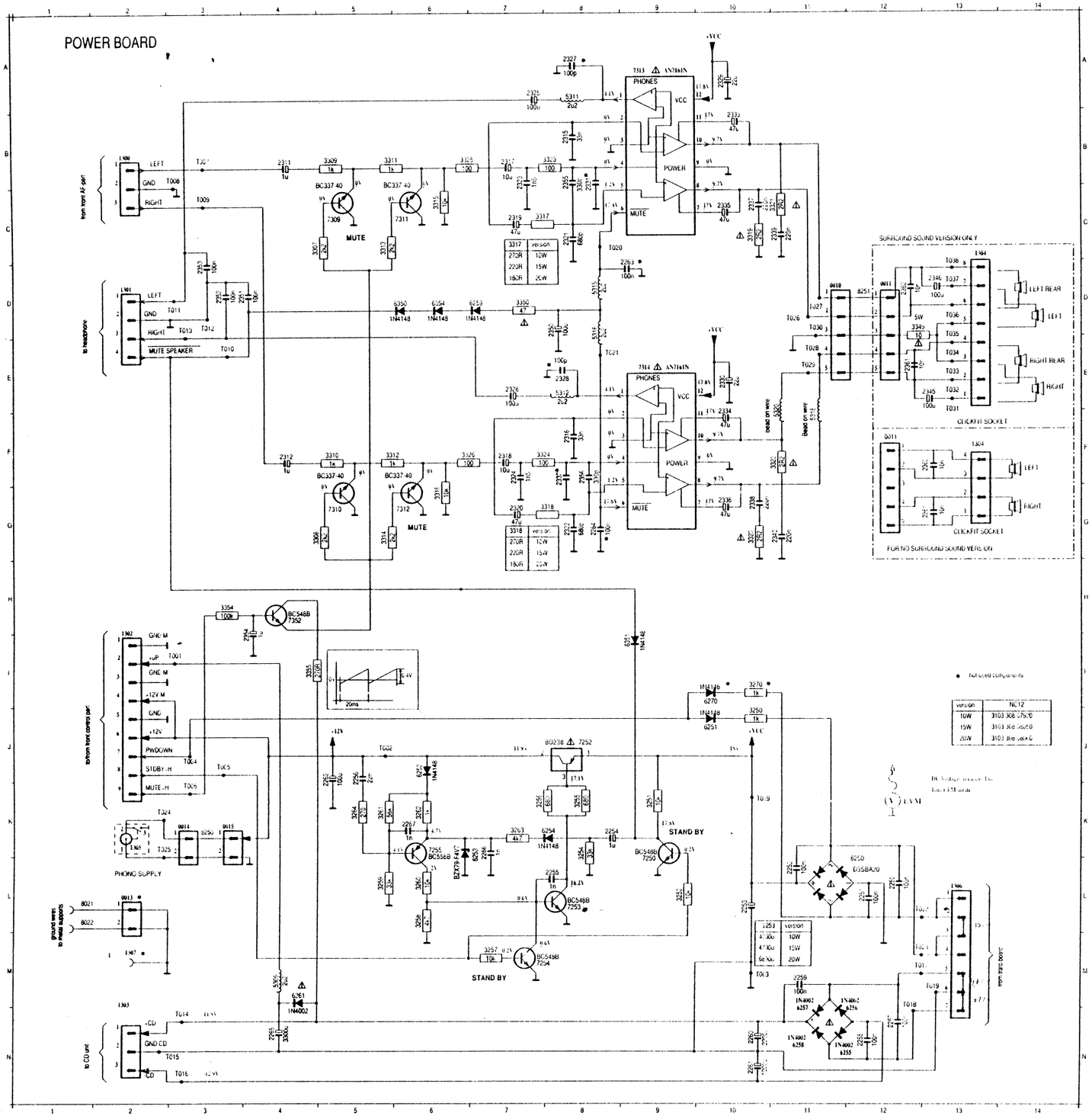
o FOR SURROUND ONLY

POWER BOARD / Component side view



7		6		5		4		3		2		1		
	9304 B 2	7310 D 4	6270 C 6	6250 B 6	3352 E 4	3319 D 5	3308 D 3	3256 C 1	2354 D 2	2336 A 2	2325 C 5	2312 E 3	2258 A 7	1305 E 7
	9302 A 2	7309 D 3	6261 D 6	5320 A 3	3351 C 4	3318 A 5	3307 D 3	3255 C 1	2353 E 5	2335 A 4	2324 C 2	2311 E 3	2257 A 7	1304 D 7
9315 C 6	9301 C 1	7255 D 1	6259 D 5	5318 A 3	3350 C 4	3317 A 5	3270 B 6	3254 C 1	2352 E 5	2334 A 2	2323 C 5	2267 D 1	2256 D 1	1303 E 6
9314 B 7	9300 D 2	7254 D 2	6258 A 7	5316 B 2	3349 C 7	3316 B 3	3264 E 1	3252 E 2	2351 E 5	2333 A 4	2322 A 2	2266 C 1	2255 C 2	1302 E 2
9312 B 5	7352 E 2	7253 C 2	6257 A 7	5315 B 5	3326 D 3	3315 D 3	3263 D 1	3251 B 1	2350 C 4	2332* A 2	2321 A 5	2265 D 6	2254 C 1	1301 E 5
9310 A 4	7351 D 4	7252 B 1	6256 A 7	5312 B 2	3325 D 3	3314 B 3	3262 D 1	3250 C 6	2348 E 7	2331* A 5	2320 A 3	2264 A 2	2253 B 3	1300 E 3
9309 A 3	7350 D 4	7250 E 1	6255 A 7	5311 B 5	3324 B 2	3313 D 3	3261 D 1	2362 D 7	2345 C 7	2330 A 1	2319 A 5	2263 B 4	2252 B 5	0015 E 6
9308 B 4	7314 A 2	6354 D 5	6254 D 1	5309 E 6	3323 B 5	3312 D 3	3200 D 2	2361 D 7	2340 B 2	2329 A 4	2318 C 3	2262 E 2	2251 A 6	0014 E 7
9307 C 3	7313 A 5	6352 E 4	6253 C 1	3355 E 4	3322 B 1	3311 D 3	3259 D 1	2357 D 4	2339 B 4	2328 B 2	2317 C 3	2261 A 7	2250 B 6	0013 E 1
9306 C 3	7312 D 3	6351 E 2	6252 D 1	3354 E 3	3321 B 4	3310 D 4	3258 C 2	2356 A 2	2338 B 2	2327 B 5	2316 A 3	2260 B 7	1307 E 1	0011 D 7
9305 B 3	7311 D 4	6350 D 5	6251 D 6	3353 E 4	3320 B 2	3300 D 3	3257 D 2	2355 A 5	2337 B 4	2326 C 5	2315 A 5	2259 A 7	1306 B 6	0010 A 6

POWER BOARD



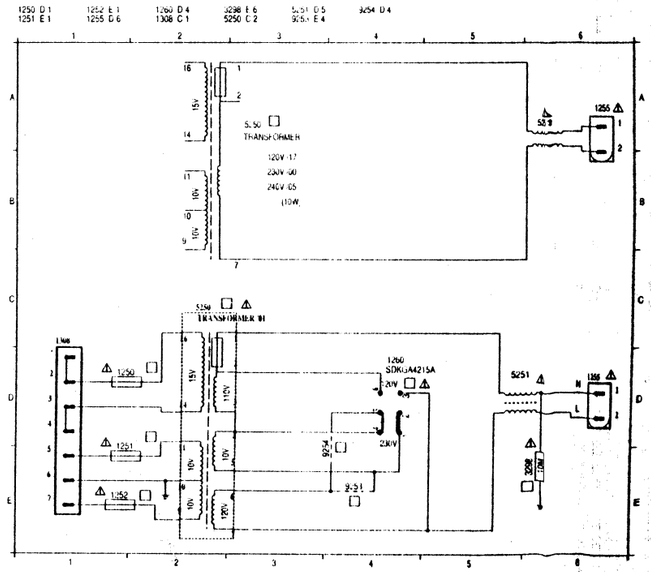
0010 D11
0011 D12
0013 L2
0014 K3
0015 K3
1300 B2
1301 D2
1302 I2
1303 M2
1304 C13
1305 K2
1306 L13
1307 M2
2250 L12
2251 L12
2252 L11
2253 L10
2254 K8
2255 L8
2256 J5
2257 N12
2258 N12
2259 M11
2260 N10
2261 N10
2262 J5
2263 D9
2264 G8
2265 N4
2266 K7
2267 K6
2311 B4
2312 F4
2315 B8
2316 F8
2317 B7
2318 F7
2319 C7
2320 G7
2321 G8
2322 G8
2323 B7
2324 F7
2325 A7
2326 E7
2327 A8
2328 E8
2329 A10
2330 E10
2331 B8
2332 F8
2333 B10
2334 F10
2335 C10
2336 G10
2337 C10
2338 G10
2339 C11
2340 G11
2345 E13
2346 D13
2350 D6
2351 D4
2352 D3
2353 D3
2354 H4
2355 B8
2356 F8
2357 I7
2361 E12
2362 D12
3250 J10
3251 K9
3252 L9
3254 K8
3255 K8
3256 K7
3257 M7
3258 L6
3259 L5
3260 L6
3261 K5
3262 K6
3263 K7
3264 K5
3270 I10
3307 C4
3308 G4
3309 B5
3310 F5
3311 B5
3312 F5
3313 C5
3314 G5
3315 C6
3316 G6
3317 C7
3318 G8
3319 C10
3320 G10
3321 C11
3322 F11
3323 B6
3324 F7
3325 B6
3326 F6
3349 D5
3350 D7
3351 I7
3352 I8
3353 I8
3354 H3
3355 I4
5308 M4
5311 A8
5312 E8
5315 D8
5316 D8
5318 E11
5320 E11
6250 L12
6251 J10
6252 J6
6253 K7
6254 K8
6255 N12
6256 N12
6257 N11
6258 N11
6259 D7
6261 M4
6270 I10
6350 D6
6351 I9
6352 I8
6354 Q16
7250 K9
7252 J8
7253 L8
7254 M7
7255 K6
7309 C5
7310 G5
7311 C6
7312 G6
7313 A9
7314 E9
7350 I6
7351 I7
7352 H4
1001 I3
1002 I5
1003 M10
1004 I3
1005 J3
T006 K3
T007 B3
T008 B3
T009 C3
T010 E3
T011 D3
T012 D3
T013 D3
T014 N3
T015 N3
T016 N3
T017 M12
T018 M12
T019 M13
T020 C8
T021 E8
T022 L12
T023 M12
T024 K2
T025 K2
T026 D11
T027 D11
T028 E11
T029 E11
T030 D11
T031 E13
T032 E13
T033 E13
T034 E13
T035 D13
T036 D13
T037 D13
T038 C13
T039 K10

TRANSFORMER BOARD

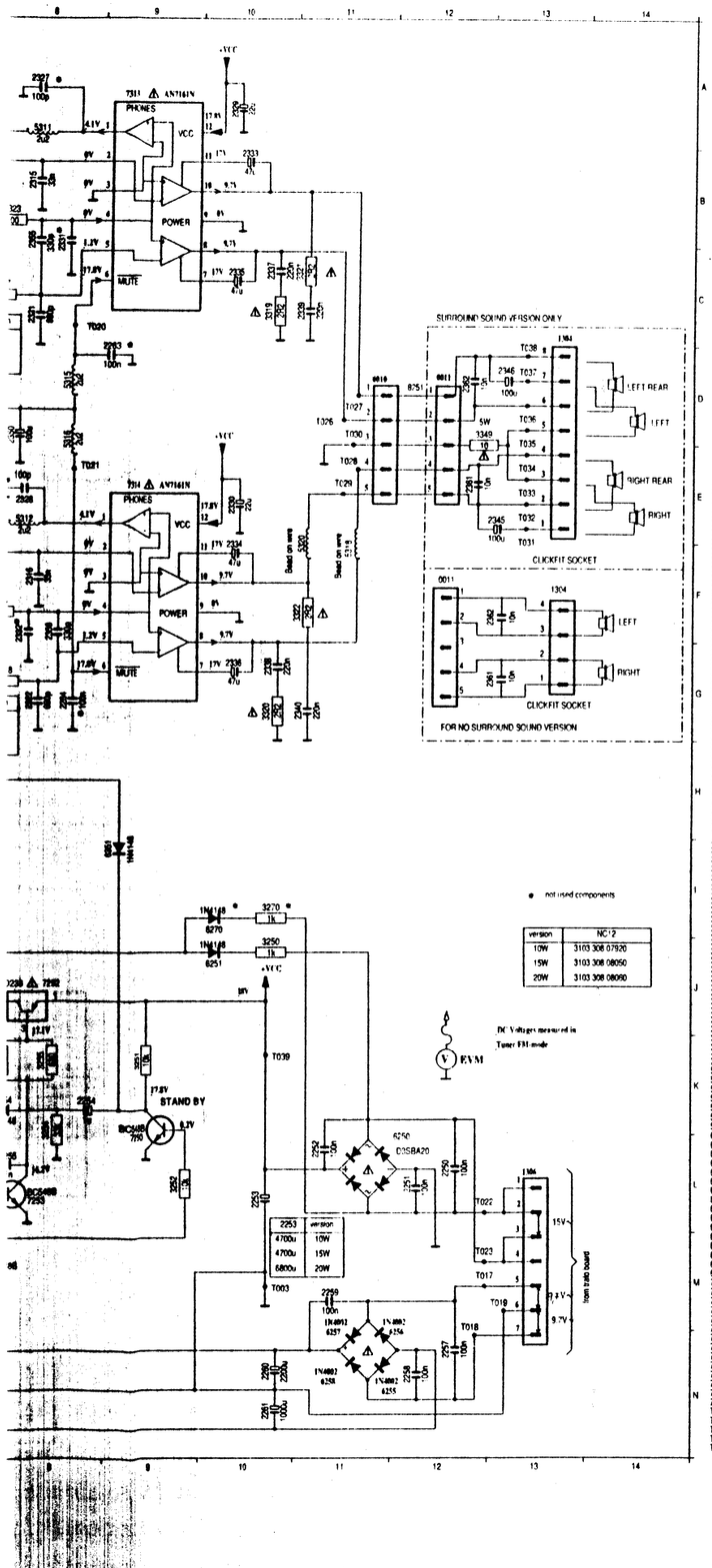
□ COMPONENTS DEPENDING ON THE VERSION

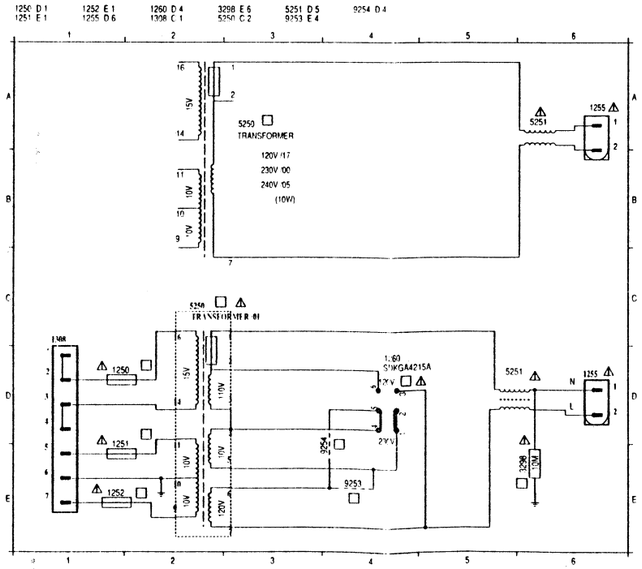
VERSION \ COMPONENTS □	*250	9253	9254	5250	5299	VALUE OF FUSE 1250 (1254)	1251 (1253)	1252 (1255)
/00 (IEC 230V)				/00		5A	630mA	630mA
/05 1) (240V)		X		/01		5A	630mA	630mA
/17 (UL 120V)				/17	X	6.3A	1.25A	1.25A
/01 /10 (120V 230V)	X		X	/01		5A	630mA	630mA
/05 1) (240V)				/06		5A	630mA	800mA

1) For 15W and 20W versions /01 transformer
for 10W version /05 transformer



TRANSFORMER BOARD

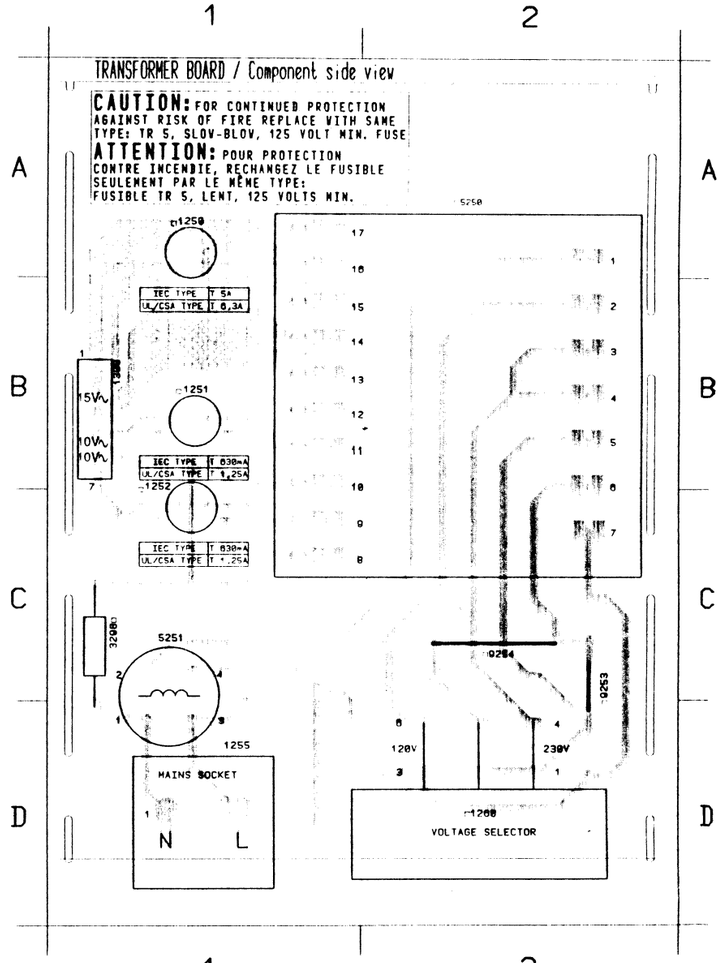




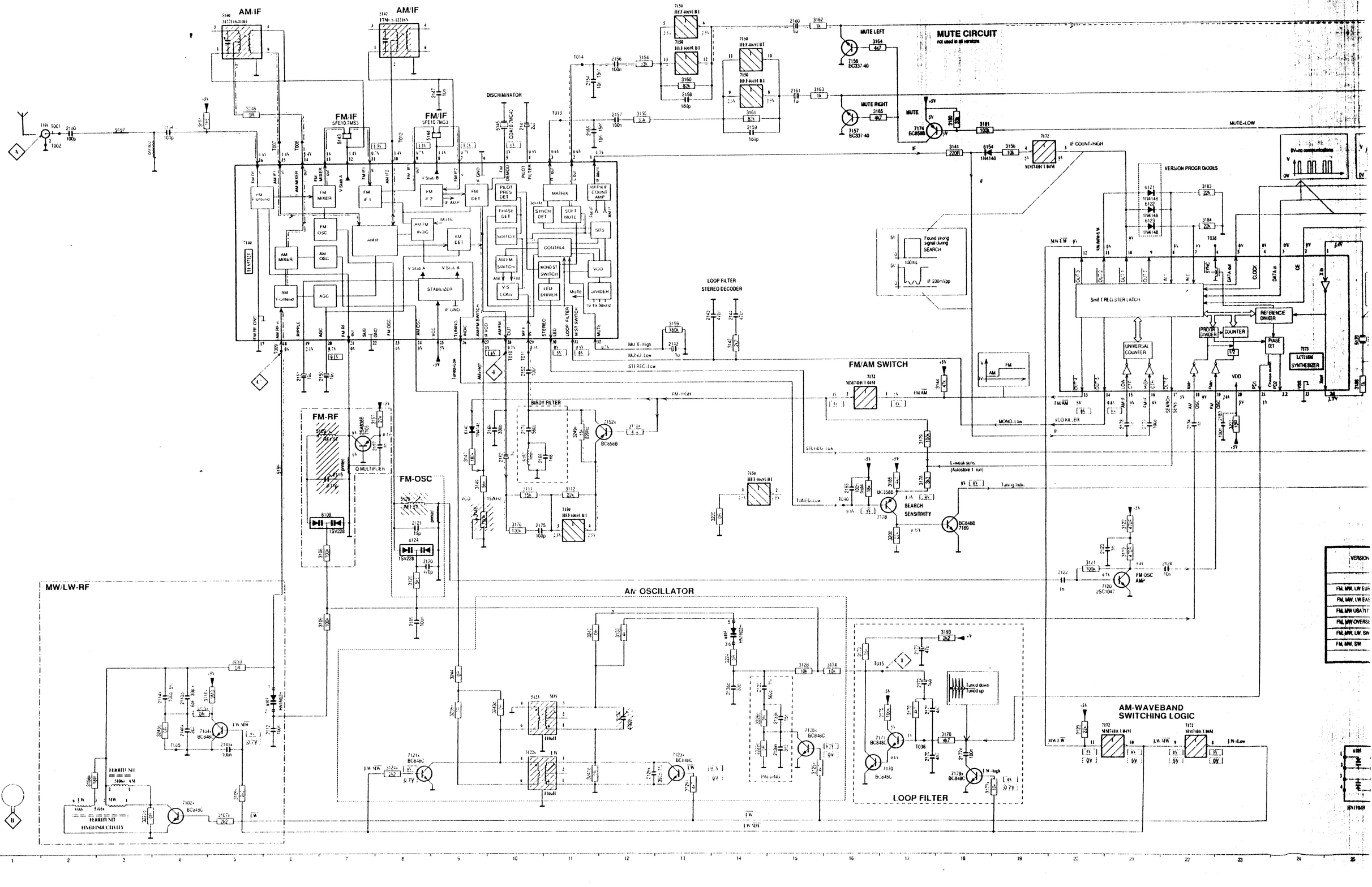
□ COMPONENTS DEPENDING ON THE VERSION

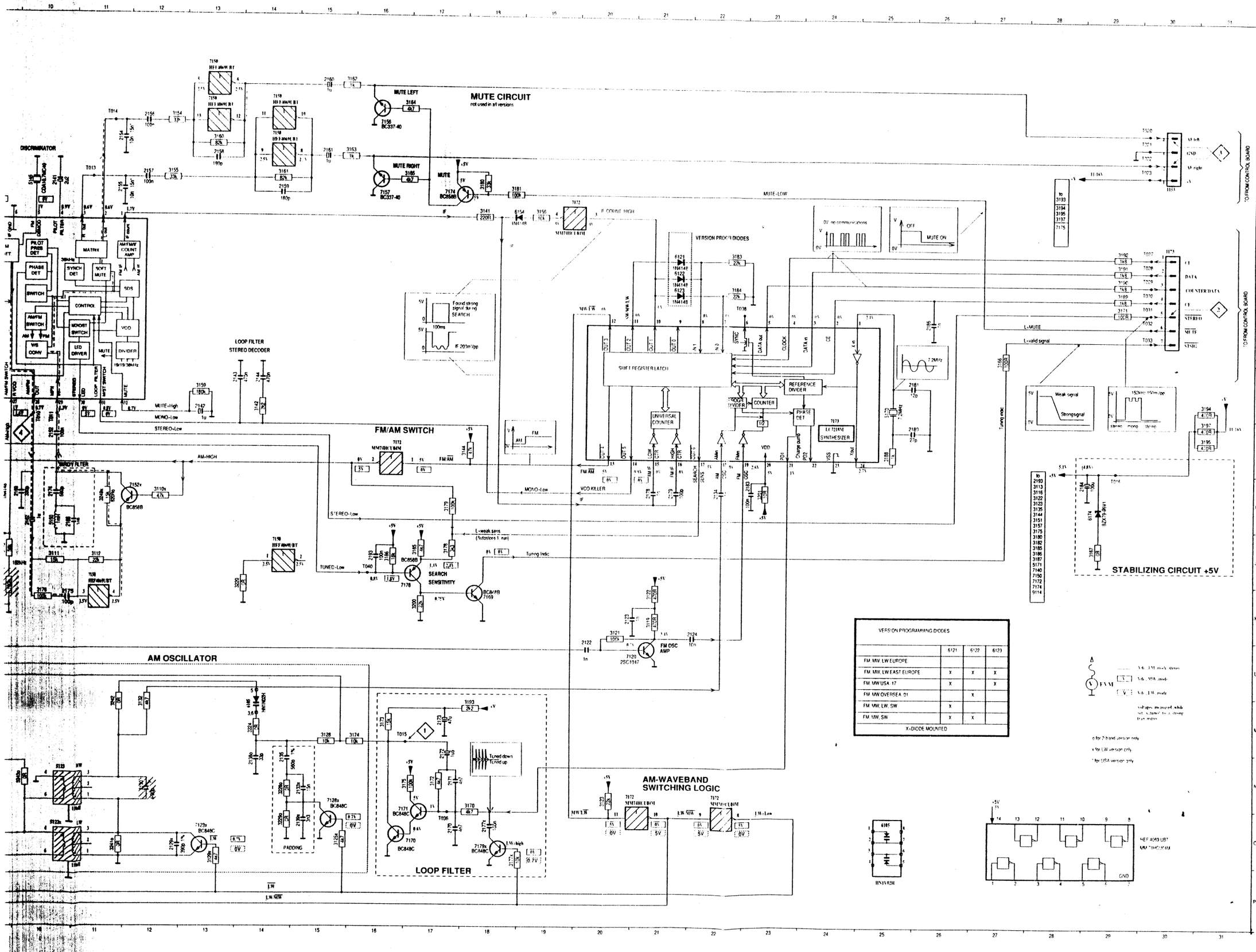
VERSION \ COMPONENTS □	1200	1253	1254	5250	3200	VALUE OF FUSE 1250 (1254)	1251 (1253)	1252 (1256)
/00 (IEC 230V)				/00		5A	630mA	630mA
/05 [1] (240V)		X		/01		5A	630mA	630mA
/17 (UL 120V)				/17	X	6.3A	1.25A	1.25A
/01 /10 (120V,230V)	X		X	/01		5A	630mA	630mA
/05 [1] (240V)				/05		5A	630mA	630mA

1) for 15V and 20W versions: 01 transformer
for 10W version /05 transformer



TUNER UNIT ECO+ (MIDI)





VERSION PROGRAMMING DIODES			
	6121	6122	6123
FM, MW, LW EUROPE			
FM, MW, LW EAST EUROPE	X	X	X
FM, MW USA 17	X		X
FM, MW OVERSEA 01		X	
FM, MW, LW, SW	X		
FM, MW, SW	X	X	

X=DIODE MOUNTED

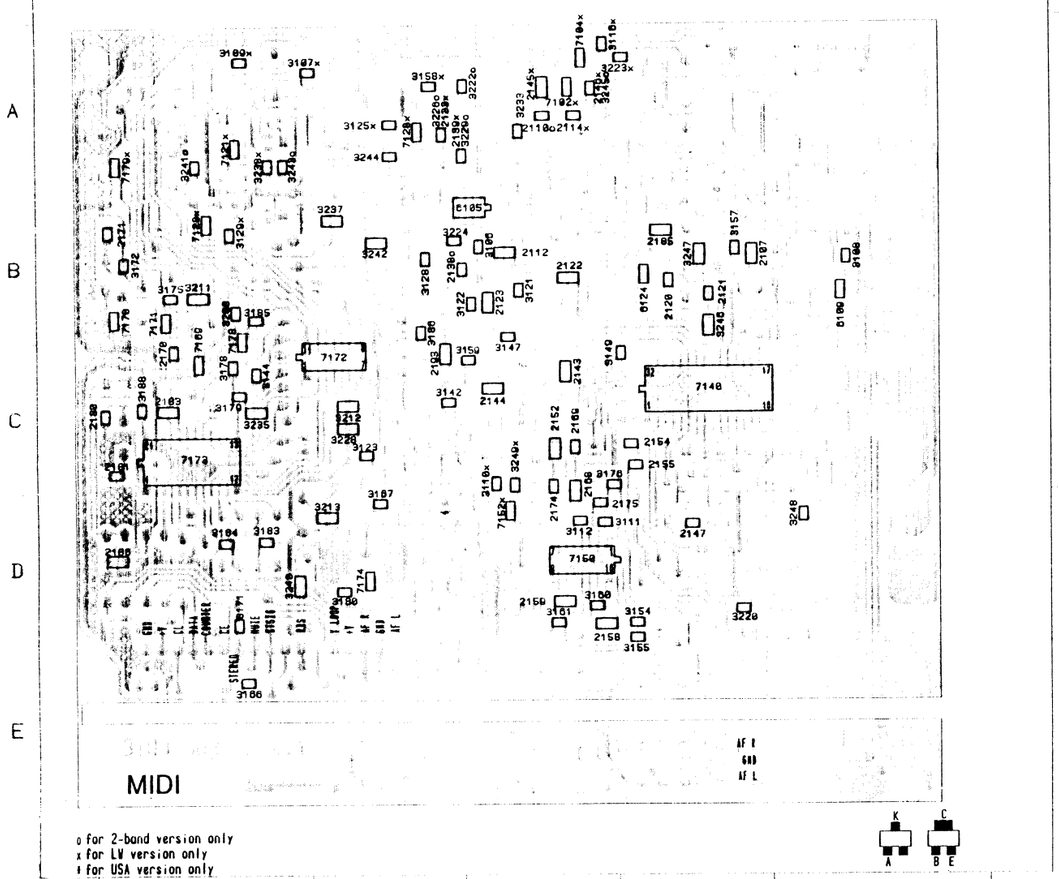
1101 C 2
1153 C30
1123 D30
2100 C 2
2104 C 4
2107 I 8
2110o N 4
2112 N 6
2114x N 4
2115 J 7
2120 K 8
2121 K 8
2122 K20
2123 K20
2124 K22
2129x O12
2130 M12
2133x N15
2134 I22
2135 M14
2138o N14
2139x O15
2141 C10
2142 G13
2143 G13
2144 G14
2145x O 5
2146x N 4
2147 C 9
2150 H 7
2151 H 6
2152 H10
2154 C11
2155 C11
2156 B12
2157 C12
2158 C13
2159 C14
2160 B15
2161 C15
2162 I10
2168 I10
2169 I10
2170 O17
2171 N17
2172 M17
2173 M17
2174 I10
2175 K10
2177x O18
2178 I21
2179 I21
2180 H25
2181 G25
2183 I20
2184 I29
2185 L 8
2186 F26
2193 J16
3106 L 7
3107x P 5
3108 K 7
3109x O 5
3110x I12
3111 J10
3112 J11
3118x L 4
3119 K21
3120 L 8
3121 K20
3122 K21
3123 N20
3124x O 8
3125x O15
3128 M15
3129x O13
3132 M12
3141 D19
3142 G14
3144 H16
3147 I 9
3148 J 9
3149 J 9
3151 C 4
3154 B12
3155 C12
3156 D19
3157 I 7
3158x O 2
3159 G13
3160 C13
3161 C14
3162 B15
3163 C15
3164 B16
3165 C16
3166 F27
3167 J29
3170 N18
3171 F29
3172 N17
3173 M16
3174 M16
3175 N17
3176 K16
3177x O18
3178 J17
3179 I17
3180 C18
3181 C18
3183 E22
3184 E22
3185 J17
3186 J16
3188 H25
3189 E29
3190 E29
3191 E29
3192 E29
3193 M18
3194 G31
3195 H31
3197 H31
3200 K17
3201 I23
3220 J14
3222o P 3
3223x N 4
3224 M14
3226o N14
3229o O14
3233 M 5
3238x N 9
3241o O11
3242 M11
3243o N10
3244 M 9
3245o N 4
3248 C 5
3249x I11
5105x P 5
5106o O 3
5109 I 7
5120 J 8
5122x O10
5123 N10
5140 A 5
5142 A 8
5143 D 7
5144 D 9
5145 C10
5150 I10
5170 G25
6106 O25
6109 J 7
6121 E21
6122 E21
6123 E21
6124 K 8
6140 I 9
6154 D18
6174 I29
7102x P 4
7104x N 5
7105 I 7
7120 L20
7121x O 8
7123x O13
7128x N15
7140 E 5
7150 J14
7150 J11
7150 A13
7150 C14
7150 B14
7150 B13
7152x I12
7156 B16
7157 C16
7169 K18
7170 O17
7171 O17
7172 H16
7172 D20
7172 O20
7172 N22
7172 N20
7172 O22
7173 H24
7174 D17
7178 K16
7179x O18
9197 C 3
9199 J 6
T001 C 2
T002 D 2
T005 O 4
T007 D 6
T008 D 6
T009 G 6
T010 H10
T011 H10
T012 C 8
T013 C11
T014 B11
T015 M16
T016 I29
T020 B29
T021 C29
T022 C29
T023 C29
T027 D30
T028 E30
T029 E30
T030 E30
T031 E30
T032 F30
T033 F30
T036 O17
T038 F22
T040 J16

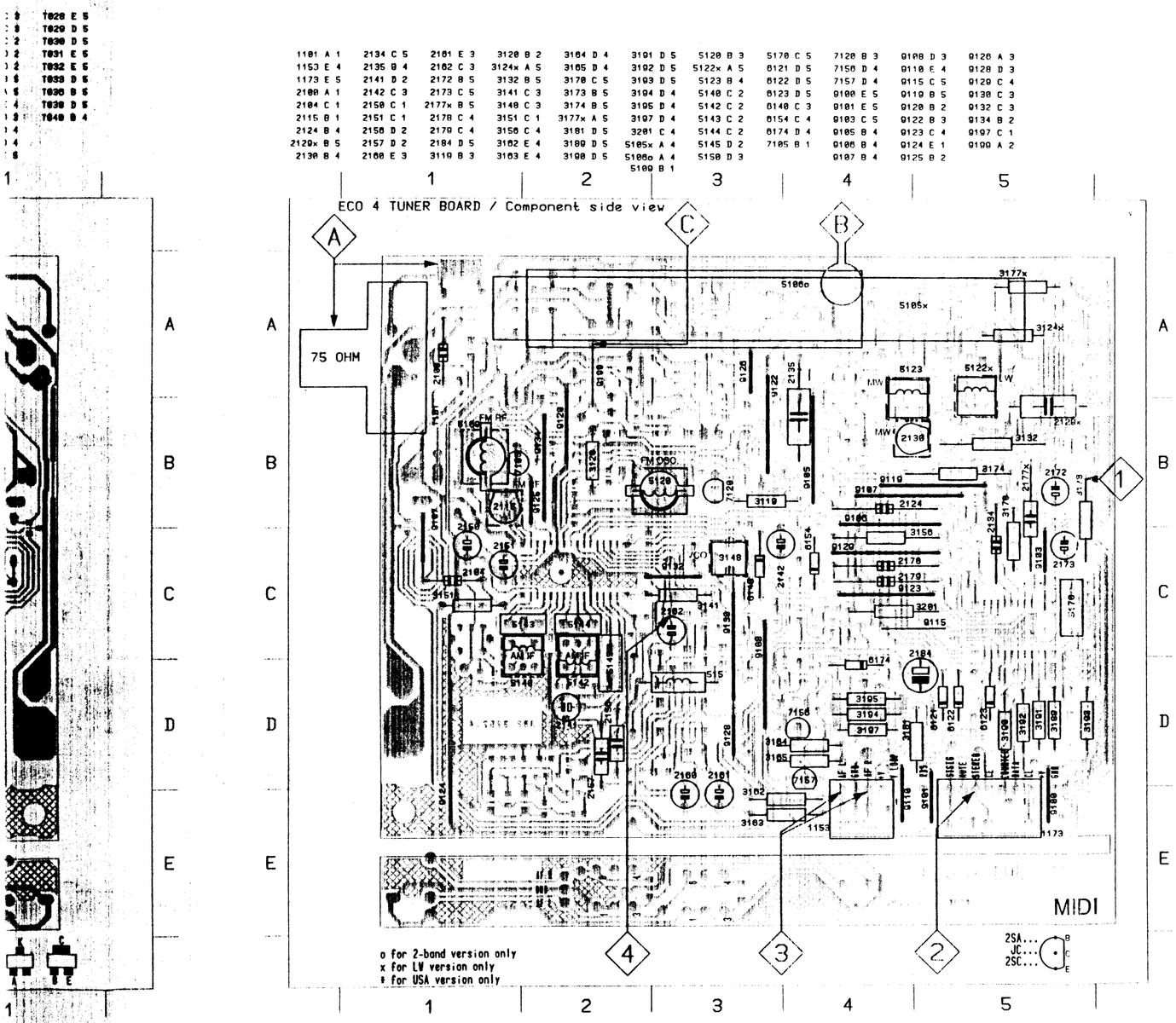
EC04 (MIDI) LAYOUT

2107 B 2 2144 C 3 2171 B 5 3110x C 3 3147 B 3 3175 B 5 3212 C 4 3238x A 5 6109 B 1 7171 B 5 T010 C 3 T020 E 5
2110o A 3 2145x A 3 2146x A 3 2175 D 3 3112 D 3 3176 C 5 3213 D 4 3240 D 5 6124 B 2 7172 C 4 T011 C 3 T029 D 5
2112 B 3 2146x A 3 2175 D 3 3112 D 3 3154 D 2 3178 C 5 3220 D 2 3241o A 5 7102x A 3 7173 C 5 T012 C 2 T030 D 5
2114x A 3 2147 D 2 2180 C 5 3116x A 3 3155 D 2 3179 C 5 3222o A 3 3242 B 4 7104x A 3 7174 D 4 T013 D 2 T031 E 5
2120 B 2 2152 C 3 2181 C 5 3121 B 3 3157 B 2 3180 D 4 3223x A 2 3243o A 5 7121x A 5 7178 C 5 T014 D 2 T032 E 5
2121 B 2 2154 C 2 2183 C 5 3122 B 3 3158x A 4 3183 D 5 3224 B 4 3244 A 4 7123x B 5 7179x A 5 T015 B 5 T033 D 5
2122 B 3 2155 C 2 2185 B 2 3123 C 4 3159 C 3 3184 D 5 3226o A 4 3245o A 3 7128x A 4 T001 A 1 T010 A 5 T036 B 5
2123 B 3 2158 D 3 2186 D 5 3125x A 4 3160 D 3 3185 B 5 3228 C 4 3246 B 2 7140 C 2 T002 A 1 T020 E 4 T038 D 5
2133x A 4 2159 D 3 2193 C 4 3128 B 4 3161 D 3 3186 B 4 3229o A 4 3247 B 2 7150 D 3 T005 D 1 T021 D 3 T040 B 4
2138o B 4 2168 D 3 3106 B 3 3129x B 5 3166 E 5 3188 C 5 3233 A 3 3248 D 1 7152x D 3 T007 C 2 T022 D 4
2139x A 4 2169 C 3 3107x A 5 3142 C 4 3167 D 4 3200 B 5 3235 C 5 3249x C 3 7160 C 5 T008 D 1 T023 D 4
2143 C 3 2170 C 5 3108 B 1 3144 C 5 3171 D 5 3211 B 5 3237 B 4 6105 B 3 7170 B 5 T009 B 2 T027 E 5
3108x A 5 3172 B 5

5 4 3 2 1

ECO 4 TUNER BOARD / Copper side view





TUNER Adjustment table (ECO 4 FM/MW- and FM/MW/LW - versions with AM-ferrite antenna)

Waverange	Input frequency	Input	Set tuned to	Adjust	Output	Scope / Voltmeter
VARICAP ALIGNMENT * 1)						
FM 87.5 - 108MHz			108 MHz	5120	1	8V ± 0.2V
			87.5MHz	check		4.1V ± 0.5V
FM /14 East Europe 65.81 - 108MHz			108 MHz	5120		8V ± 0.2V
			65.81 MHz	check		0.8V ± 0.4V
MW 2-band version, 10kHz grid 530 - 1710kHz			1710kHz	5123		9V±0.1V (7.5±0.7V) 1)
			530kHz	check		1V±0.4V (1.1±0.5V) 1)
LW 153 - 279kHz			279kHz	5122		8V±0.2V (7.5±1.5V) 1)
			153kHz	check		1V±0.4V (1.1±0.5V) 1)
MW 3-band version 522 - 1611kHz			1611kHz	5123		8V±0.1V (7.5±0.5V) 1)
			522kHz	check		1V±0.4V (1.1±0.5V) 1)
FM - RF						
FM	108MHz	A	108MHz	2115	3	MAX ↕
	87.5MHz		87.5MHz	5109		
FM /14 East Europe	108MHz	mod=1kHz Δf=22.5kHz	108MHz	2115		
	65.81MHz		65.81MHz	5109		
VCO						
FM	98 MHz, 1mV continuous wave	A	98MHz	3148	2	152kHz ± 1kHz
AM - IF						
MW	540kHz Δf = 10kHz as low as possible	100nF 50E C	540kHz	5142 5140	4	symmetrical and max height
AM - RF						
LW	198kHz	B	198kHz	5122	4	MAX
MW 3-band version	1494kHz		1494kHz	2130		MAX ↕
	549kHz		549kHz	5123		
MW 2-band version, 10kHz grid	1500kHz	mod=1kHz 30% AM	1500kHz	2130		
	550kHz		550kHz	5123		

* Use Service Test Program. By selecting the TUNER TEST, test frequencies will be stored as preset frequ. automatically.
1) Adjustment of AM-RF stage influences the varicap voltage. Therefore check if varicap voltage fulfils value stated within brackets after AM-RF adjustment.

↕ repeat

TUNER 92 CIRCUIT

TUNER UNIT

FM - FRONTEND

FM - IF

AM - IF

FM - DETECTOR

CROSSTALK

AM - OSC

AM-FRONTEND

LOOPFILTER

ANTI BIRDY FILTER

SEARCH LEVEL

AM FRAME ANTENNA

FERROCEPTOR

OPTION MATRIX

7103 LA1851N

7105 LC7218

7112 2SC1047

7116 2SC1047

7108 BC548C

7109 BC548C

7104 BC558C

7125 BC558B

7114 BC548B

7111 BC848B

7113 BC548C

7115 BF245B

6102 HN1V02H

6122 1N4148

6123 1N4148

6121 1N4148

6110 1N4148

5112 7.2 MHz

5113 10.7 MHz

5103 10.7 MHz

5110 450 kHz

5111 455 kHz

5106

5108

MW LW

FM ANT

AM FRAME ANTENNA

TO 3196 VCO-KILL

VCO-KILL FROM pin 14-7105

AM FM

2 step 1+1 step

mono stereo

LOW = VALID S

STEREO = LOW

NOT FOR /17 AND /01 AND /06

ONLY FOR /17 AND /01 AND /06

ONLY FOR FTZ

NOT FOR FTZ

FM signal

AM signal

3104 217 6320 bl 130 - 01

PCS 6.1 382

FM - IF

AM - IF

FM - DETECTOR

CROSSTALK

7103 LA1851N

AM IF | IF BUF | AM MIX | FM IF | AM RF | FM LEVEL DET | FM DET | V REG | AM DET | AGC | COMP | VCO | PILOT DET | FF 38 kHz | FF 19 kHz 90 | FF 19 kHz 0 | TRIG | STEREO SWITCH | DECODER | ALC | AM OSC | MUTE | LED DRIVE

VCC | AM IF In | AM IF Out | FM Det | VCO | Mono/Stereo | Phase Det | Crosstalk | FM IF In | AM In | Vref | AFC | AM Det. | AGC | IF Out | AM Stop Det. | AM | FM Det. | FM | AM/FM | Stereo Indication | Tuning Indication | AM Osc | AM Osc Out | AF-L | AF-R

ANTI BIRDY FILTER

MUTE

SEARCH LEVEL

LOOPFILTER

7105 LC7218

7,2 MHz | PD1 | X in | X out | AM OSC | AM in | FM OSC | FM in | H Ctr. | L Ctr | In 1 | In 0 | VDD | VSS

REF DIVIDER | PHASE DETECT | DIVIDER | COUNTER | 1/2 | UNIVERSAL COUNTER | SHIFT REGISTER LATCH

Out 0 | Out 1 | Out 2 | Out 3 | Out 4 | Out 5 | Out 6 | Clock In | Data In | Data Out | CE

OPTION MATRIX

TO 3198 VCO-KILL

LOW = VALID SIGNAL

MUTE = LOW

STEREO = LOW

JST 1117: LEFT | GND | RIGHT

7-FOLD JST 1112: STSIG | MUTE | STEREO | CLOCK | DATA | COUNTER | CE

+V

	option diodes		
	6121	6122	6123
Europe	-	-	-
USA	x	-	x
Overseas	-	x	-
East Europe	x	x	x
Japan	-	x	x
Europe + sw	x	-	-
Overseas + sw	x	x	-

x = Diode mounted

FM | AM | FM signal | AM signal

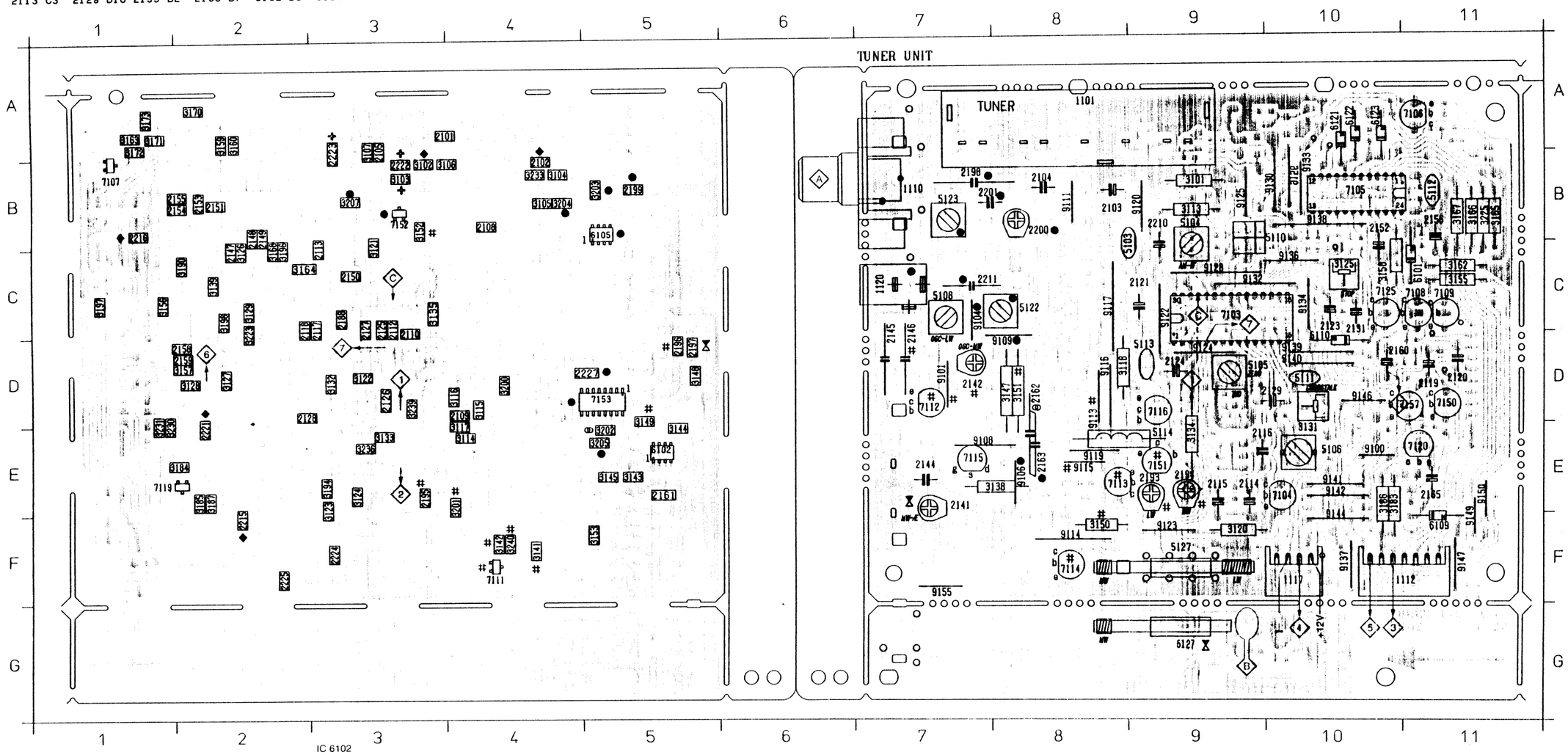
* NOT FOR /17 AND /01 AND /06
♦ ONLY FOR /17 AND /01 AND /06
♦ ONLY FOR FTZ
ØØ NOT FOR FTZ

LEU0025 9401

1101	B6	3172	J28
1110	C1	3173	I29
1112	K30	3183	G26
1117	B30	3184	G26
2101	B3	3185	G25
2102	B4	3186	G24
2103	B2	3187	G25
2104	E8	3190	H29
2105	L10	3194	B20
2106	B11	3196	H20
2109	C10	3197	G29
2110	D12	3198	A21
2111	J27	3200	C9
2112	F28	3201	N6
2113	A15	3202	I9
2114	A20	3223	G16
2115	B22	3225	L19
2116	A22	3230	C27
2117	C25	3231	D27
2118	E25	3233	E7
2119	C26	3236	G15
2120	D26	3239	G14
2121	H13	3240	N4
2123	G15	5103	D8
2124	H14	5104	A16
2125	H15	5105	A18
2126	G16	5106	G18
2127	H18	5108	K8
2128	H19	5110	B15
2129	G19	5111	B19
2131	G17	5112	J13
2141	L6	5113	D12
2142	N9	5114	K8
2144	L7	5127	L5
2145	L8	6101	H29
2146	M8	6102	K6
2147	K12	6109	F25
2148	M12	6110	I24
2149	M12	6121	N13
2150	D19	6122	N12
2151	H28	6123	N12
2152	H28	7103	C13
2153	N19	7104	B20
2154	K13	7105	I14
2155	J12	7106	I28
2156	I10	7107	J28
2158	J11	7108	I11
2159	K11	7109	J11
2160	J10	7111	N4
2161	J6	7112	M8
2162	K7	7113	O7
2165	G25	7114	N4
2188	L22	7115	K5
2193	M5	7116	C11
2194	N5	7119	F26
2195	M6	7120	G24
2196	M6	7125	H24
2197	L8	7150	D28
2210	F28	7151	N6
2215	L22	7157	C28
2216	N20	9116	C10
2221	G15	9117	C8
2222	J10		
2223	B5		
2224	C29		
2225	D29		
3101	A2		
3102	A3		
3103	A4		
3104	B4		
3105	E8		
3106	C7		
3107	L11		
3113	B11		
3114	C11		
3115	D11		
3116	D11		
3117	C11		
3118	C11		
3120	F29		
3121	A16		
3122	B18		
3123	A21		
3124	B22		
3125	I23		
3126	J19		
3127	C25		
3128	E25		
3129	G17		
3131	B23		
3132	G19		
3133	G15		
3134	G13		
3135	E12		
3138	J6		
3139	H24		
3141	N4		
3142	O5		
3143	K6		
3144	K6		
3145	K6		
3147	K7		
3148	L7		
3149	N7		
3150	N7		
3151	O7		
3152	O8		
3153	M3		
3155	I10		
3156	I10		
3157	J11		
3158	J11		
3159	N13		
3160	N12		
3162	G29		
3163	J27		
3164	N12		
3165	M19		
3166	M19		
3167	N19		
3168	L19		
3170	J27		
3171	J27		

TUNER 92 LAYOUTS

1101	A8	2114	E9	2131	D10	2156	B11	2199	B5	3103	B3	3124	E3	3143	E5	3160	A2	3186	E10	3225	B11	5113	D9	7105	B10	7151	E9	9117	C8	9139	D10
1110	B7	2115	E9	2141	E7	2158	D2	2200	B8	3104	B4	3125	C10	3144	E5	3162	C11	3187	E2	3230	D1	5114	E9	7106	A11	7152	B3	9119	E8	9140	D10
1112	F11	2116	E9	2142	D7	2159	D2	2201	B7	3105	B4	3126	C2	3145	E5	3163	A1	3190	C2	3231	D1	5122	C8	7107	B1	7153	D5	9120	B9	9141	E10
1117	F10	2117	C3	2144	E7	2160	D10	2210	B9	3106	B4	3127	D2	3147	D8	3164	C2	3194	E3	3233	B4	5123	B7	7108	C11	7157	D11	9122	C9	9142	E10
1120	C7	2118	C2	2145	C7	2161	E5	2211	C7	3107	A3	3128	D2	3148	D5	3165	B11	3196	C2	3236	E3	5127	F9	7109	C11	9100	E10	9123	F9	9144	F10
2101	A4	2119	D11	2146	C7	2162	D8	2215	F2	3113	B9	3129	C2	3149	E5	3166	B11	3197	C1	3239	D3	6101	C11	7111	F4	9101	D7	9124	D9	9146	D10
2102	B4	2120	D11	2147	C2	2163	E8	2216	B1	3114	E4	3131	E10	3150	F8	3167	B11	3198	C2	3240	F4	6102	E5	7112	D7	9104	C7	9125	B9	9147	F11
2103	B8	2121	C9	2148	B2	2165	E11	2221	E2	3115	D4	3132	D3	3151	D8	3168	C2	3200	D4	5103	C9	6105	B5	7113	E8	9106	E8	9128	C9	9149	F11
2104	B8	2123	C10	2149	B2	2188	C3	2222	B3	3116	D4	3133	E3	3152	B3	3170	A2	3201	E4	5104	B9	6109	F11	7114	F8	9108	E7	9130	B10	9150	E11
2105	A3	2124	D9	2150	C3	2193	E9	2223	A3	3117	E4	3134	E9	3153	F5	3171	A1	3202	E5	5105	D9	6110	D10	7115	E7	9109	D8	9132	C9	9155	F7
2108	B4	2125	C3	2151	B2	2194	E9	2224	F3	3118	D8	3135	C3	3155	C11	3172	A1	3203	B5	5106	E10	6121	A10	7116	D9	9110	B8	9133	B10	9156	B10
2109	D4	2126	D3	2152	B10	2195	E3	2225	F2	3120	F9	3138	E8	3156	C1	3173	A1	3204	B4	5108	C7	6122	A10	7119	E1	9113	D8	9134	C10		
2110	D3	2127	C3	2153	B2	2196	D5	2227	D5	3121	B3	3139	C2	3157	D2	3183	E10	3205	E5	5110	C10	6123	A10	7120	E11	9114	F8	9136	C10		
2112	C3	2128	D2	2154	B2	2197	D5	3101	B9	3122	D3	3141	F4	3158	C10	3184	E2	3207	B3	5111	D10	7103	C9	7125	C10	9115	E8	9137	F10		
2113	C3	2129	D10	2155	B2	2198	B7	3102	B3	3123	E3	3142	F4	3159	A2	3185	E2	3223	C2	5112	B11	7104	E10	7150	D11	9116	D8	9138	B10		



- ⊛ NOT FOR SHORTWAVE
- ◆ ONLY FOR FTZ
- ✚ NOT FOR FTZ
- ● ONLY FOR SHORT WAVE
- # NOT FOR /17 /01 /06
- ⧗ ONLY FOR /17 /01 /06

IC 6102

e b c

3104-217-03320 .6

- ⊛ NOT FOR SHORTWAVE
- ◆ ONLY FOR FTZ
- ● ONLY FOR SHORT WAVE
- # NOT FOR /17 /01 /06
- ⧗ ONLY FOR /17 /01 /06

3104-217-03320 01 110 01

TUNER A

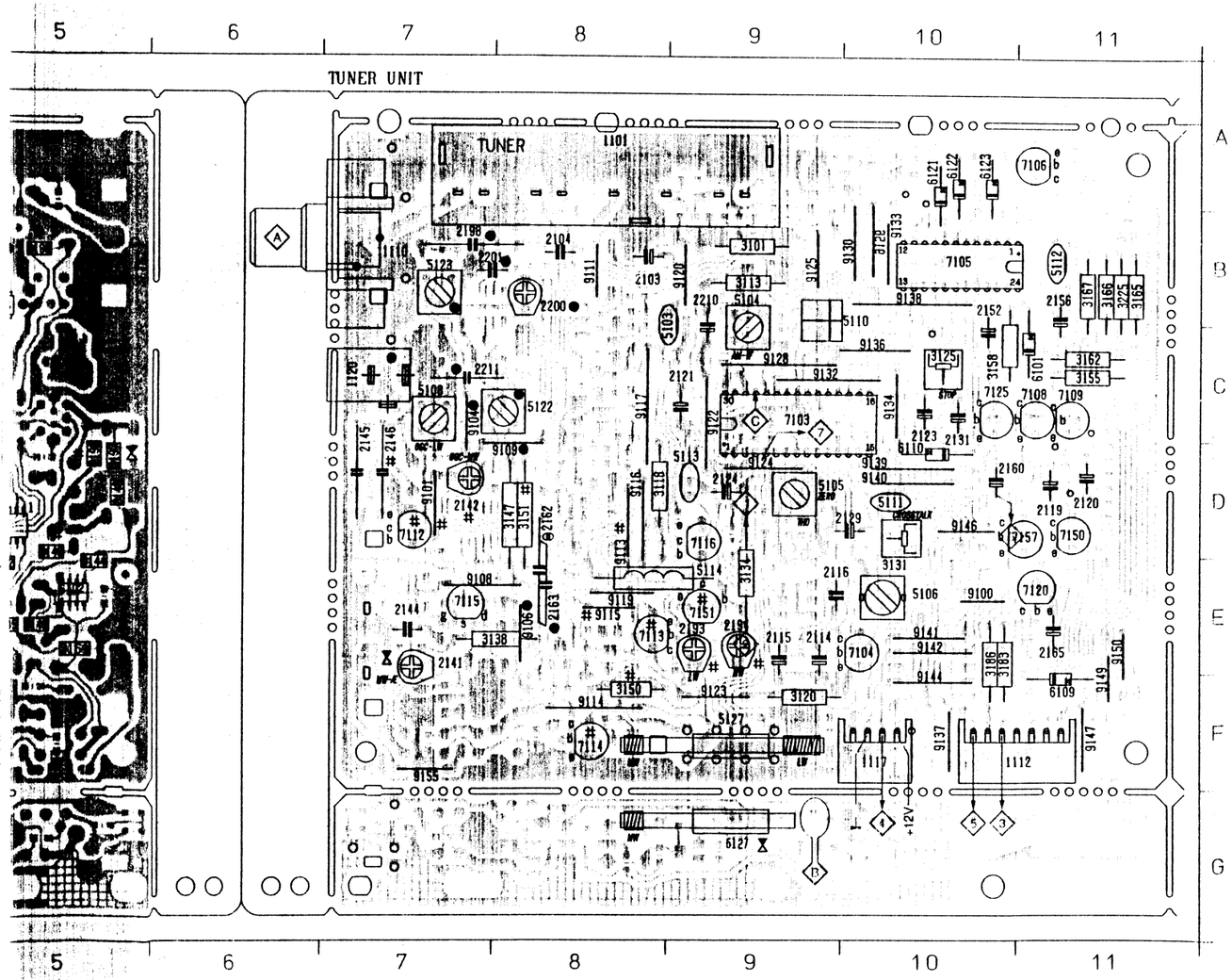
Waver
VARICAP
FM 87.5 - 108 (50)
LW 153 - 279 (3)
MW 522 - 161 (9)
FM IF
FM
STEREO
FM
SEARCH
FM
AM - IF
MW
AM - RF
LW
MW

* Signal sen
(..) = tuning

repeat

L IEU0037
9404

0	3226	B11	5113	D9	7105	B10	7151	E9	9117	C8	9139	D10
	3230	D1	5114	E9	7106	A11	7152	B3	9119	E8	9140	D10
	3231	D1	5122	C8	7107	B1	7153	D5	9120	B9	9141	E10
	3233	B4	5123	B7	7108	C11	7157	D11	9122	C9	9142	E10
	3236	E3	5127	F9	7109	C11	9100	E10	9123	F9	9144	F10
	3239	D3	6101	C11	7111	F4	9101	D7	9124	D9	9146	D10
	3240	F4	6102	E5	7112	D7	9104	C7	9125	B9	9147	F11
	6103	C9	6105	B5	7113	E8	9106	E8	9128	C9	9149	F11
	6104	B9	6109	F11	7114	F8	9108	E7	9130	B10	9150	E11
	6105	D9	6110	D10	7115	E7	9109	D8	9132	C9	9155	F7
	6106	E10	6121	A10	7116	D9	9111	B8	9133	B10	9156	B10
	6108	C7	6122	A10	7119	E1	9113	D8	9134	C10		
	6110	C10	6123	A10	7120	E11	9114	F8	9136	C10		
	6111	D10	7103	C9	7125	C10	9116	E8	9137	F10		
	6112	B11	7104	E10	7150	D11	9116	D8	9138	B10		



3104-217-03320 .6

⊗ NOT FOR SHORTWAVE
◆ ONLY FOR FTZ
● ONLY FOR SHORT WAVE
NOT FOR /17 /01 /06
⧖ ONLY FOR /17 /01 /06

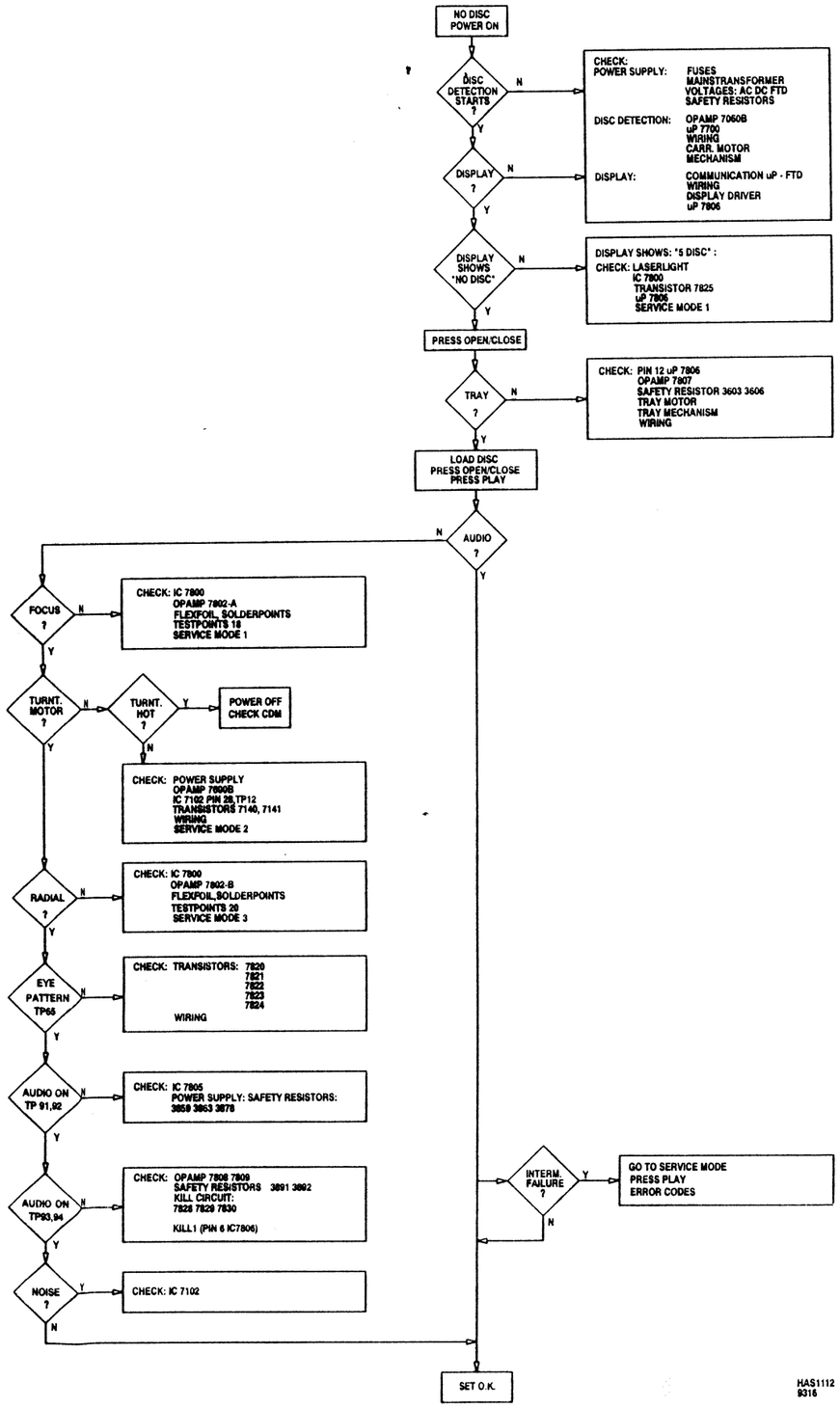
TUNER Adjustment Table (FM,MW,LW with Ferroceptor)

Waverange	Input frequency	Input	Set tuned to	Adjust	Output	Scope / Voltmeter
VARICAP ALIGNMENT						
FM 87.5 - 108MHz (50)			108 MHz	check	6	7.....9V
			87.5MHz	check		1.3.....2V
LW 153 - 279kHz (3)			279kHz	5108		8.5V ± 0.1V
			153kHz	check		0.7.... 1.5V
MW 522 - 1611kHz (9)			1611kHz	2142		8,5V ± 0.1V
			522kHz	check		0.7.....1.7V
FM IF						
FM	98 MHz 1mV mod = 1kHz Δf = 75kHz	A	98MHz	5105	1 2	0V ± 20mV
STEREO CROSSTALK						
FM	98 MHz 1mV 90% L + 9% pilot	A	98MHz	check	3	low < 1V
				3131	4	Right channel min.
SEARCH SENSITIVITY						
FM	98 MHz 12µV mod = 1kHz Δf = 75kHz	A	98MHz Sensitivity low "Level"	3125	5	Switches just from High to Low
AM - IF						
MW	1494kHz Δf = 10kHz low as posible swept signal	100nF 50E	1494kHz	5104	7	symmetrical and max height
AM - RF						
LW	155kHz mod = 1kHz 30 % AM 270kHz	B	155kHz	5127 LW	7	MAX
			270kHz	2193		
MW	558kHz mod = 1kHz 30 % AM 1494kHz		558kHz	5127 MW		MAX
			1494kHz	2194		

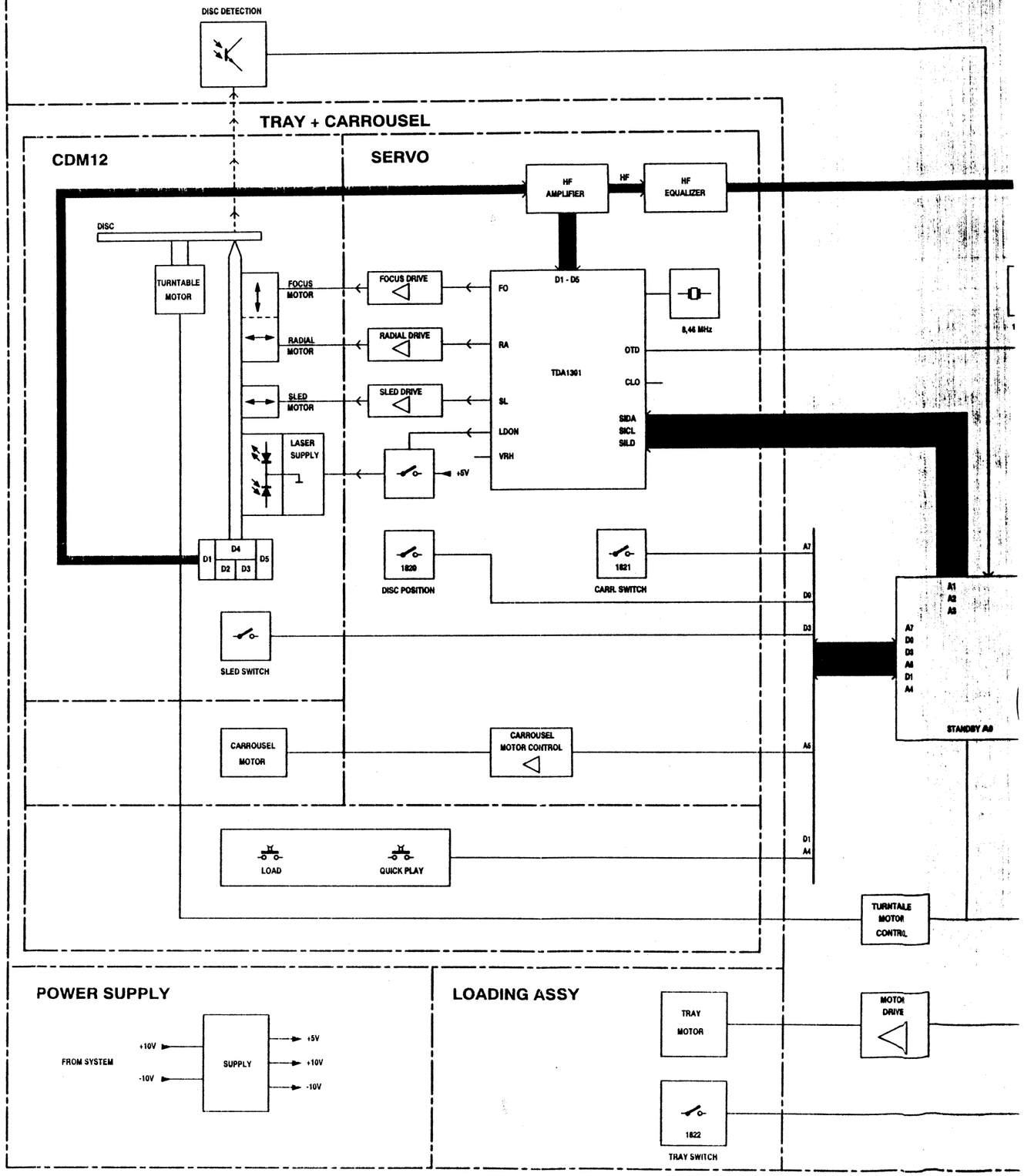
* Signal send via a frame antenna
(..) = tuning grid in kHz

repeat

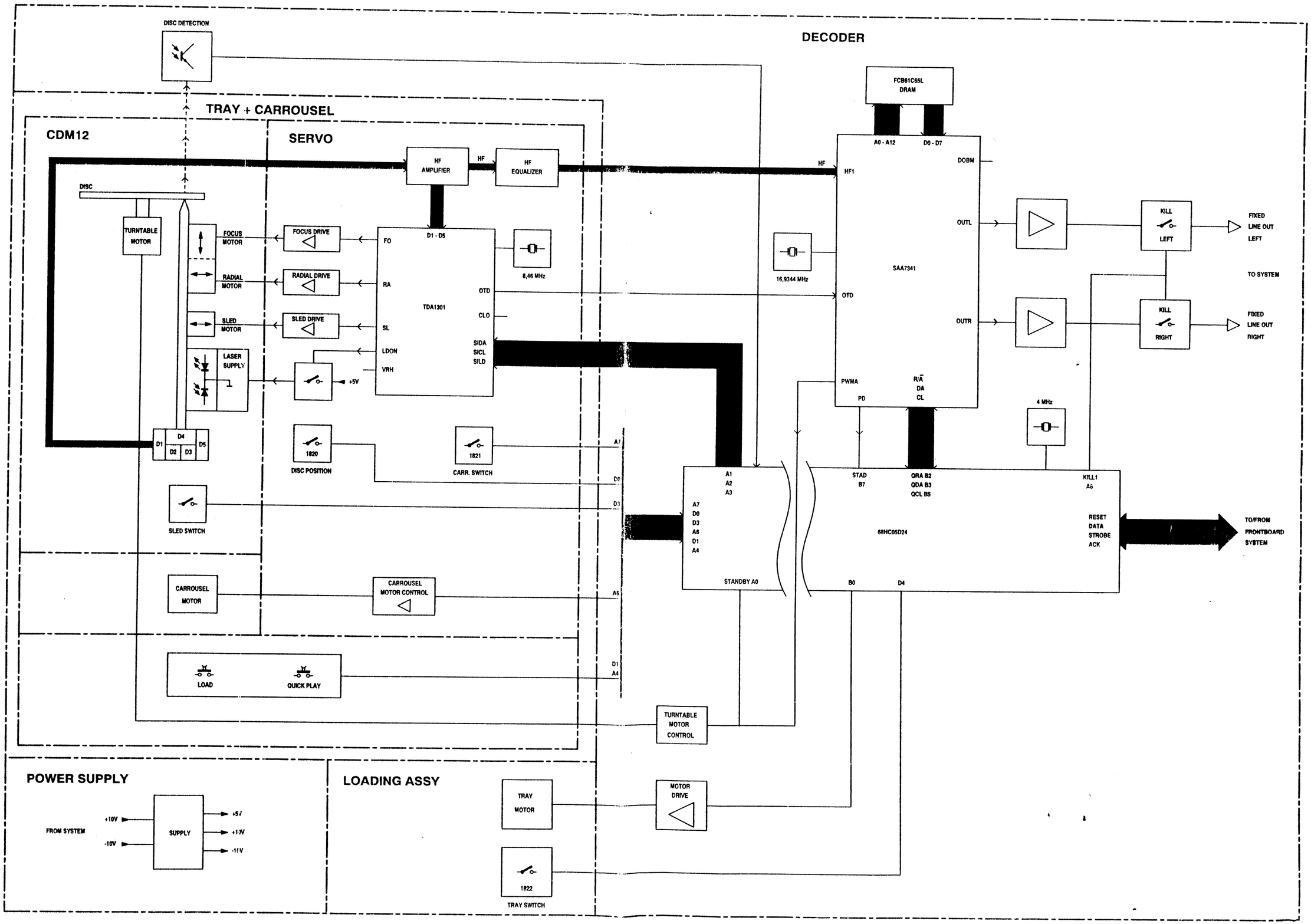
AULT FINDING TREE - CD PART


NO DISC POWER ON
DISC DETECTION STARTS ?
N
Y
CHECK:
POWER SUPPLY: FUSES MAINSTRANSFORMER VOLTAGES: AC DC FTD SAFETY RESISTORS
DISC DETECTION: OPAMP 7060B uP 7700 WIRING CARR. MOTOR MECHANISM
DISPLAY: COMMUNICATION uP - FTD WIRING DISPLAY DRIVER uP 7806
DISPLAY ?
DISPLAY SHOWS "NO DISC" ?
DISPLAY SHOWS: "5 DISC" :
CHECK: LASERLIGHT IC 7800 TRANSISTOR 7825 uP 7806 SERVICE MODE 1
PRESS OPEN/CLOSE
TRAY ?
CHECK: PIN 12 uP 7806 OPAMP 7807 SAFETY RESISTOR 3603 3606 TRAY MOTOR TRAY MECHANISM WIRING
LOAD DISC PRESS OPEN/CLOSE PRESS PLAY
AUDIO ?
FOCUS ?
CHECK: IC 7800 OPAMP 7802-A FLEXFOIL SOLDERPOINTS TESTPOINTS 18 SERVICE MODE 1
TURNT. MOTOR ?
TURNT. HOT ?
POWER OFF CHECK CDM
CHECK: POWER SUPPLY OPAMP 7800B IC 7102 PIN 28,TP12 TRANSISTORS 7140, 7141 WIRING SERVICE MODE 2
RADIAL ?
CHECK: IC 7800 OPAMP 7802-B FLEXFOIL,SOLDERPOINTS TESTPOINTS 20 SERVICE MODE 3
EYE PATTERN TP65
CHECK: TRANSISTORS: 7820 7821 7822 7823 7824 WIRING
AUDIO ON TP 91,92
CHECK: IC 7805 POWER SUPPLY: SAFETY RESISTORS: 3859 3863 3878
AUDIO ON TP93,94
CHECK: OPAMP 7808 7809 SAFETY RESISTORS 3891 3892 KILL CIRCUIT: 7828 7829 7830 KILL1 (PIN 6 IC7806)
NOISE ?
CHECK: IC 7102
INTERM. FAILURE ?
GO TO SERVICE MODE PRESS PLAY ERROR CODES
SET O.K.
HAS1112 9316

BLOCK DIAGRAMM - CD PART

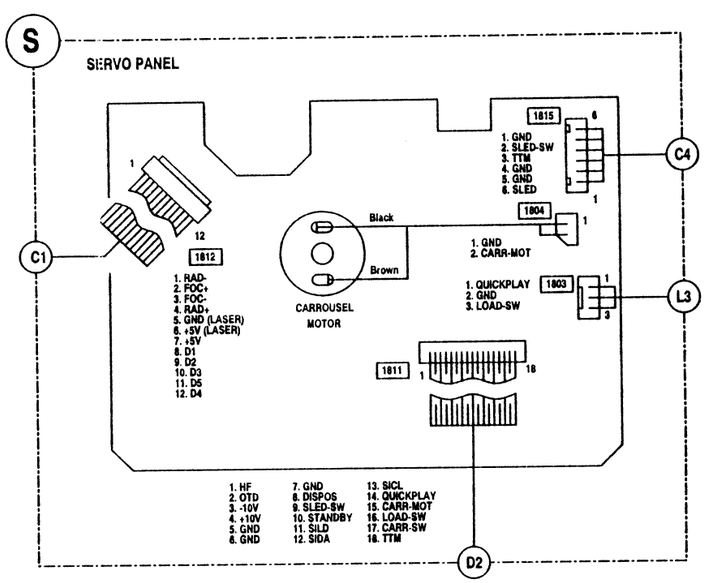


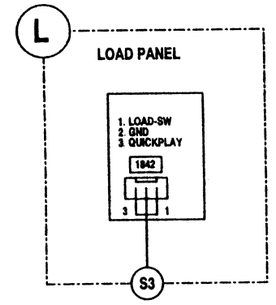
BLOCK DIAGRAMM - CD PART

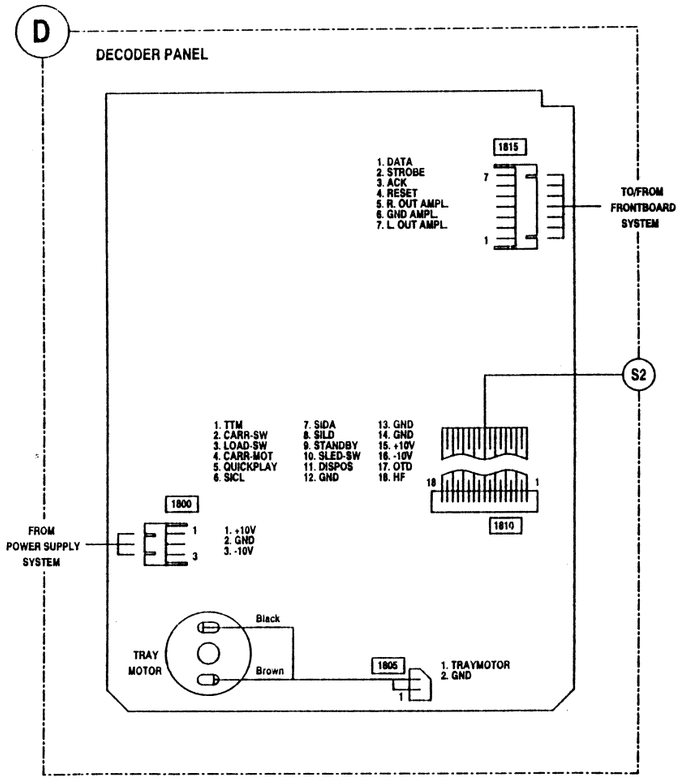


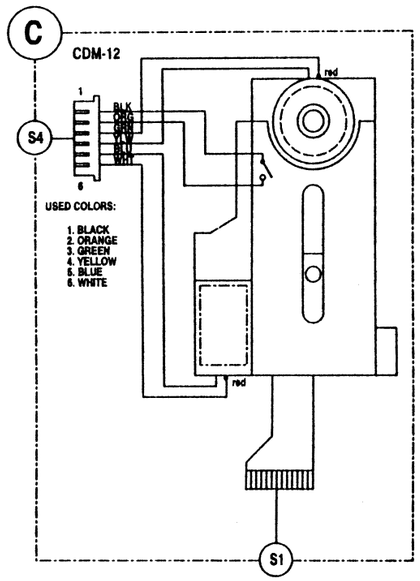
HAS1107
9314

WIRING DIAGRAM - CD PART



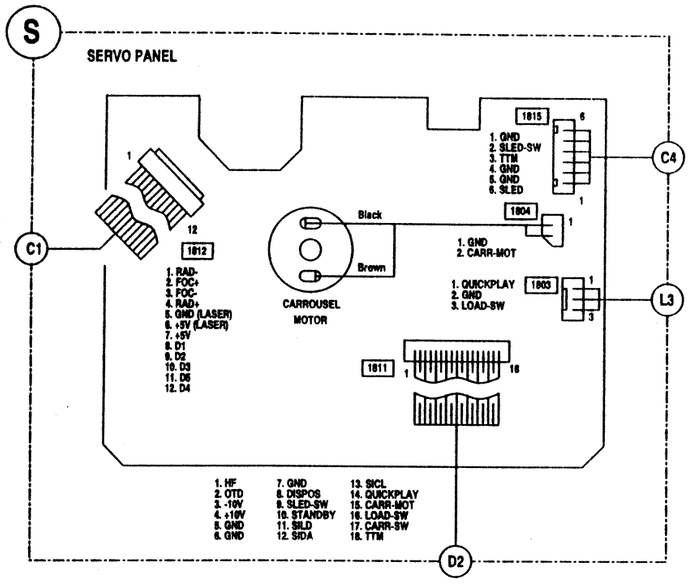


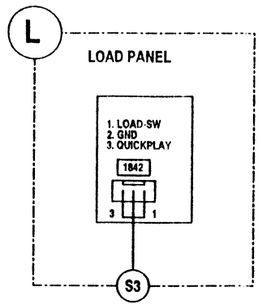


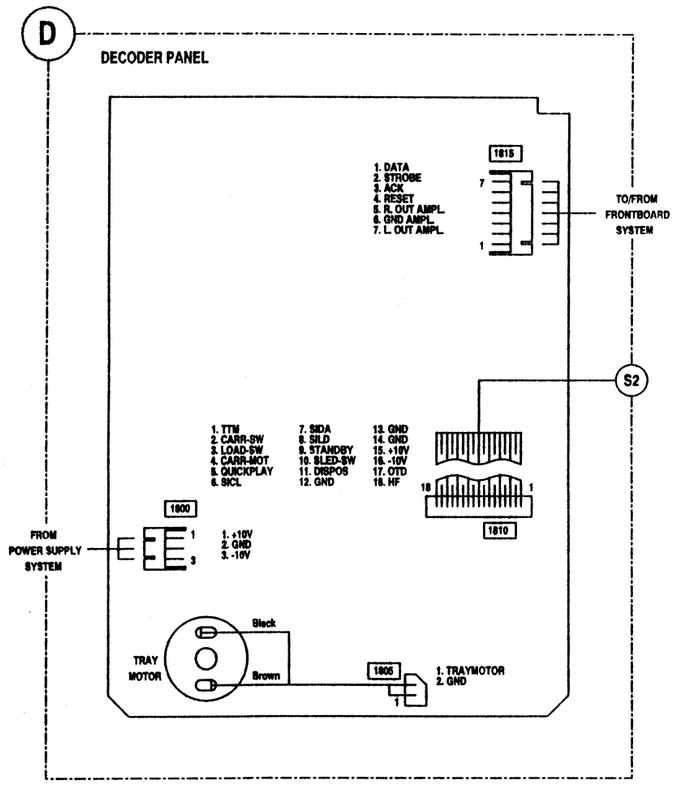


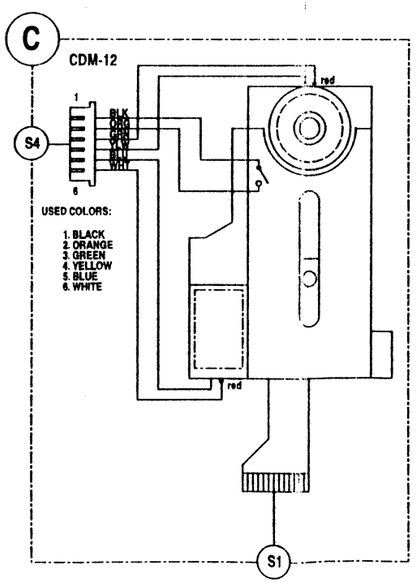
HAS1101
9313

WIRING DIAGRAM - CD PART









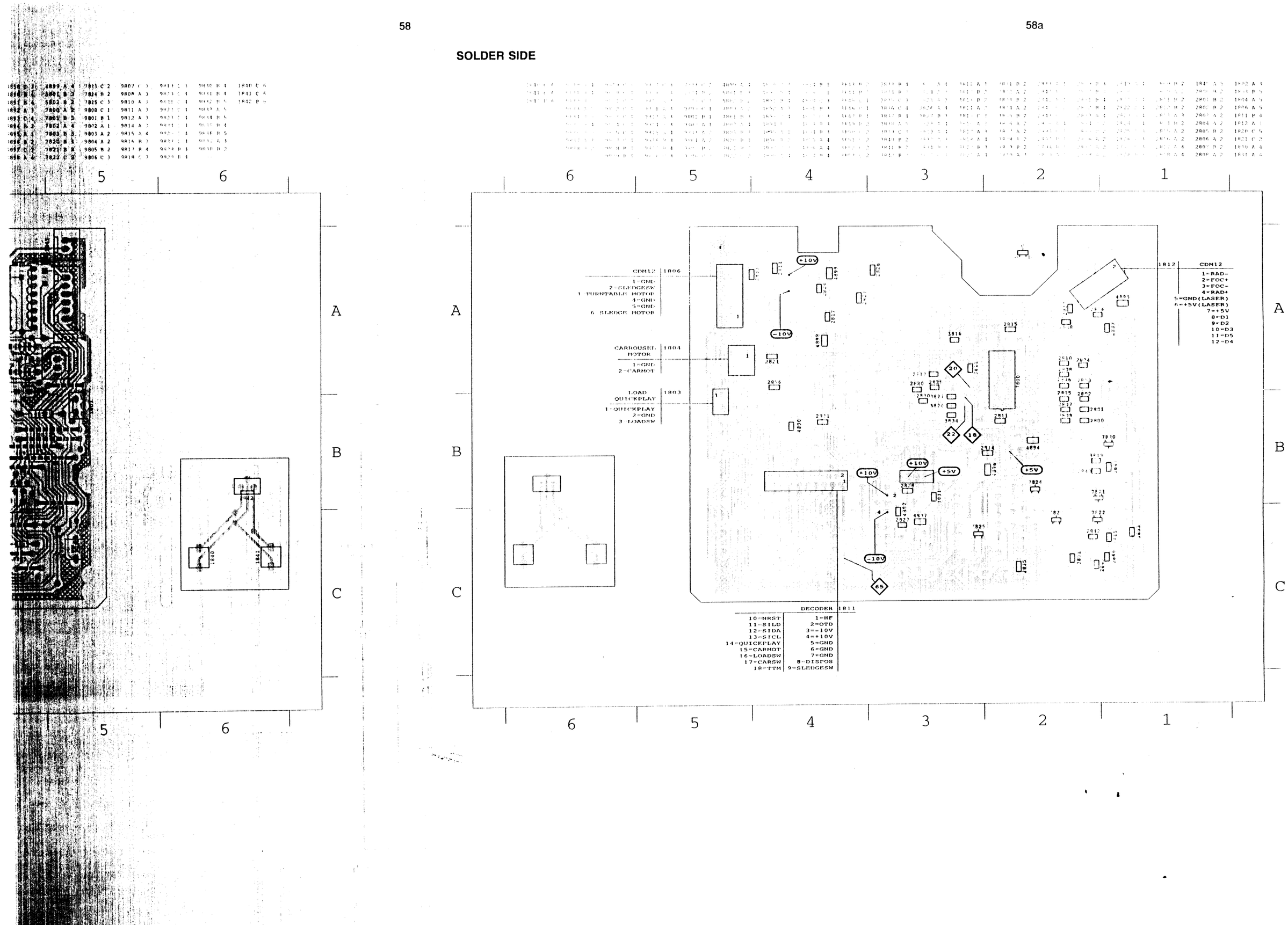
HAS1101
9313

ABBREVIATIONS

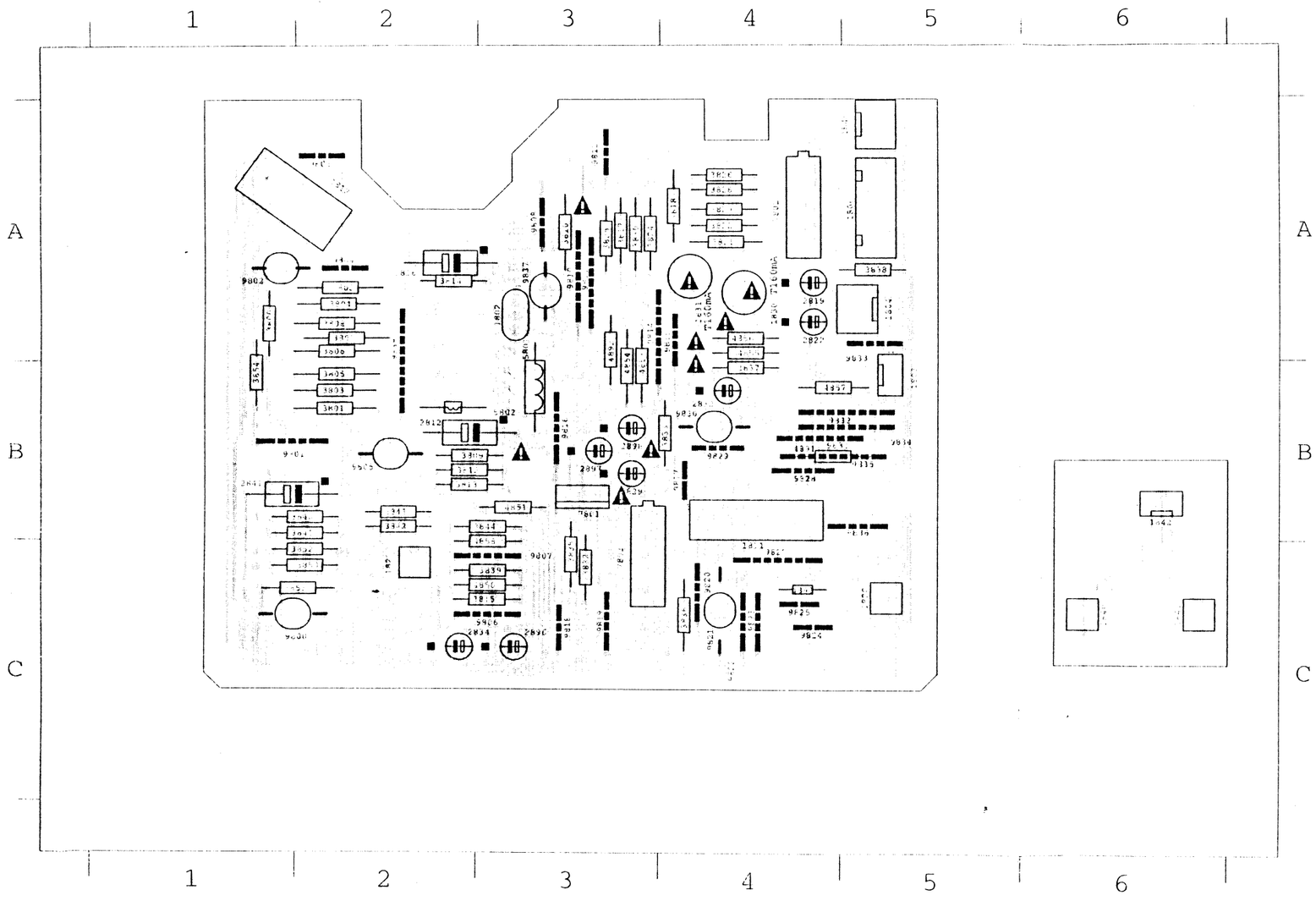
A0-A12	: Address outputs to external RAM
AM*	: Additional mute
CFB	: Data slicer feedback output to capacitor
CL	: Microprocessor interface clock input
CLO	: Clock output
D0-D7	: Data inputs/outputs to external RAM
D1-D4	: Central diode signal input
DA	: Microprocessor interface data input/output line
DE1L	: Pin 1 for external de-emphasis capacitor and resistor
DE1R	: Pin 1 for external de-emphasis capacitor and resistor
DE2L	: Pin 2 for external de-emphasis capacitor and resistor
DE2R	: Pin 2 for external de-emphasis capacitor and resistor
DEEM	: Output for external de-emphasis switches
DOBM	: Digital audio output
FO	: Focus actuator output
HFD	: High frequency detector
HFI*	: Inverting data slicer input
HFI	: Non-inverting data slicer input
HM	: Motor control signal
IREF	: Current reference output
KO*	: Kill out
KTC	: Kill time capacitor connection
LDON	: Laser drive on
MACC	: Motor accelerate signal
MBRA	: Motor brake signal
MHAL	: Hall effect detector for motor
NRST	: Reset input
OC	: VCO control
OTD	: Off track detector
OUTL	: Left channel output
OUTR	: Right channel output
PD	: Phase detector
PWMA	: Pulse width modulated motor control acceleration
PWMB	: Pulse width modulated motor brake signal
R/A	: Request/acknowledge
SD1-5	: Photodiode signals
SICL	: Serial interface clock
SIDA	: Serial interface data
SILD	: Serial interface load
SL	: Sledge output
ST*	: Standby mode
TS1-TS2	: Test input
VddA	: Power supply analog part
VddD	: Power supply digital part
VRH	: Reference input for A/D converter
VRL	: Reference input for A/D converter
VssA	: Ground analog part
VssD	: Ground digital part
WE	: Write enable
XIN	: Crystal oscillator input
XOUT	: Output to clock crystal
XTLI	: Oscillator input
XTLO	: Oscillator output
XTLR	: Oscillator reference

* log. 0-active !

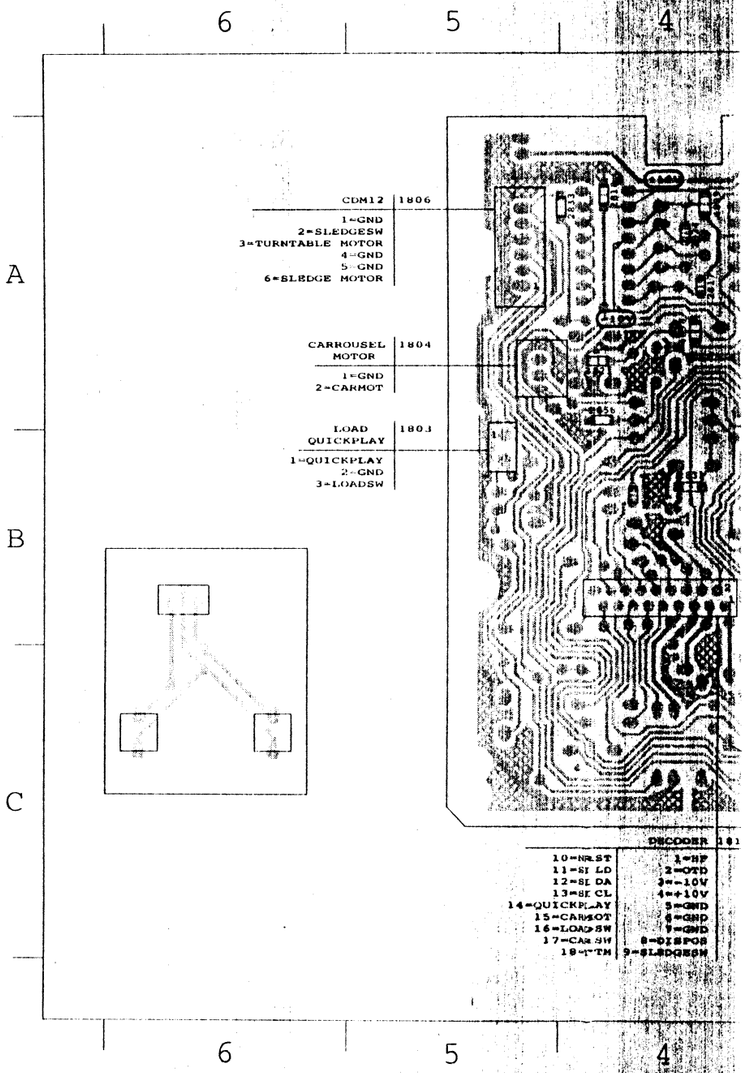
SOLDER SIDE


CDM12 1806
1=GND
2=SLEDGESW
3 TURNTABLE MOTOR
4=GND
5=GND
6 SLEDGE MOTOR
CARROUSEL MOTOR 1804
1=GND
2=CARMOT
LOAD QUICKPLAY 1803
1=QUICKPLAY
2=GND
3=LOADSW
1812 CDM12
1=RAD-
2=FOC+
3=FOC-
4=RAD+
5=GND(LASER)
6=+5V(LASER)
7=+5V
8=D1
9=D2
10=D3
11=D5
12=D4
+10V
-10V
+5V
DECODER 1811
10=NRST
11=SILD
12=SIDA
13=SICL
14=QUICKPLAY
15=CARMOT
16=LOADSW
17=CARSW
18=TTM
1=HF
2=OTD
3=-10V
4=+10V
5=GND
6=GND
7=GND
8=DISPOS
9=SLEDGESW

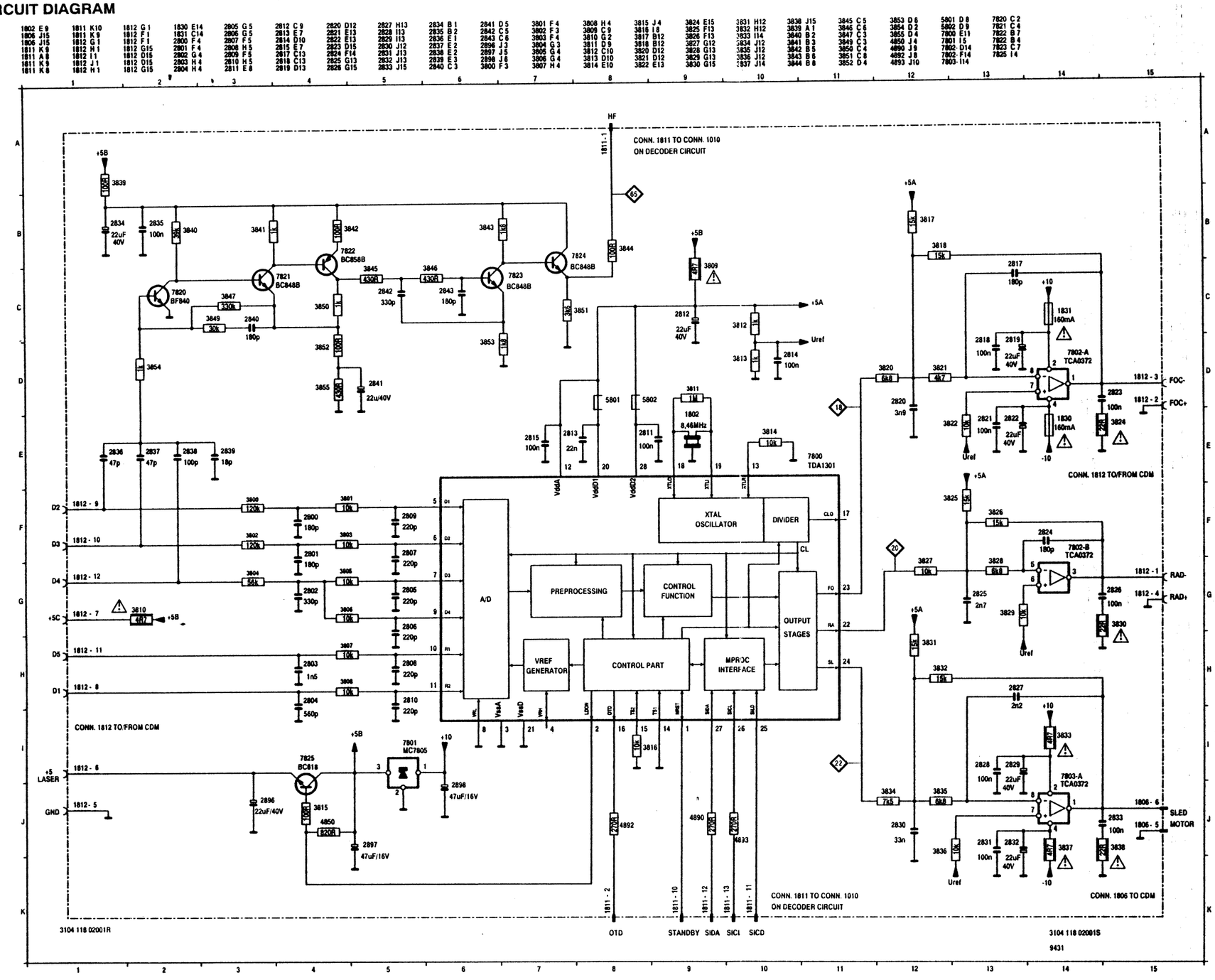
SERVO PANEL
COMPONENT SIDE

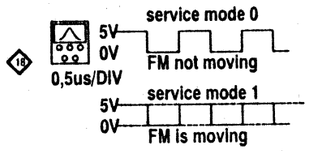


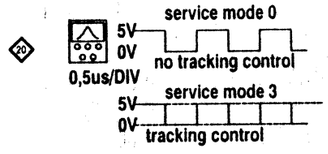
SOLDER SIDE

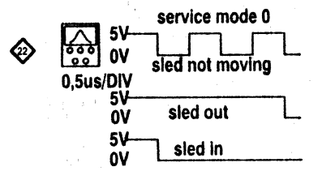


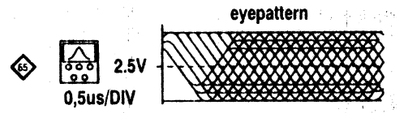
SERVO CIRCUIT DIAGRAM











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1801	D5	2854	C3	2875	C4	2891	F3	3863	E2	3881	D6	3897	D8	4809	J5	4826	D1	4843	H5	4866	J4	7829	B5	9852	F7	9868	F2	9888	G8
1805	L7	2855	B2	2876	E6	2892	F3	3864	D4	3882	A4	3898	C8	4810	J6	4827	F9	4847	K4	4868	J5	7830	B6	9853	F7	9869	I3	9889	F8
1810	H8	2859	E4	2877	B4	2893	G3	3865	D5	3883	A4	3899	C7	4811	E8	4828	G6	4848	I8	4869	J4	7831	F8	9854	F4	9870	B5	9891	I6
1815	C9	2860	B5	2878	A5	2894	G3	3866	B5	3884	E6	3901	K5	4812	F8	4829	H5	4849	I8	6800	C2	7832	G3	9855	G8	9872	G7	9892	I6
1822	G2	2861	C5	2879	E8	2895	H3	3867	C5	3885	E7	3905	K5	4814	I8	4830	F5	4859	H5	6801	C7	9840	D4	9856	I3	9873	F5	9893	J6
1840	K5	2862	E5	2880	E6	2902	E4	3868	F5	3886	B4	3906	K5	4815	G9	4831	F5	4860	D8	6802	F9	9841	E5	9857	I3	9874	D7	9894	J6
2844	B3	2863	E4	2881	E7	2905	D8	3869	G5	3887	D6	3907	K5	4816	G6	4832	G6	4861	D6	7801	E2	9842	C5	9858	I7	9875	I4	9895	E8
2845	C3	2864	G5	2882	C7	2906	E6	3871	H5	3888	D6	4800	C6	4817	I8	4833	G5	4862	E8	7805	D3	9843	D7	9859	I3	9876	F4	9896	F9
2846	D2	2865	H4	2883	D8	2907	E8	3873	F3	3889	B5	4801	E7	4818	J5	4834	G4	4863	C3	7806	J1	9844	F7	9860	F7	9877	F2	9897	H3
2847	D1	2868	C8	2884	E7	3848	I5	3874	G4	3890	B5	4802	E8	4819	J7	4835	H5	4864	G8	7807	H4	9845	F2	9861	H7	9878	D2		
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2851	B3	2872	C4	2888	H5	3860	C1	3878	C5	3894	D7	4806	C6	4823	J6	4840	I9	4882	C4	7826	F4	9849	I8	9865	H3	9885	B3		
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1800	I9	2854	C7	2876	E5	2893	G7	3866	B6	3885	E4	3906	K6	4816	G1	4833	G5	4863	C8	7807	H6	9846	G3	9863	F5	9884	F4
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2844	B8	2864	G5	2883	D3	3848	I5	3875	F7	3892	F4	4805	E3	4823	J5	4841	G2	4885	J6	7829	B5	9853	F4	9870	B6	9892	I4
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2846	D8	2868	C2	2885	A4	3857	C8	3877	F7	3894	D4	4807	E3	4825	E9	4843	H2	4888	J5	7831	F2	9855	G2	9873	F5	9894	J4
2847	D9	2869	E5	2886	K4	3858	B6	3878	C5	3895	C4	4808	C4	4826	D9	4847	K7	4889	J7	7832	G7	9856	I7	9874	D3	9896	E2
2848	B7	2870	C6	2887	J4	3860	C9	3879	D5	3896	D4	4809	J6	4827	F1	4848	I3	6800	C8	9840	D6	9857	I7	9875	I6	9898	F1
2849	C7	2871	C6	2888	H5	3861	C9	3880	D5	3897	D3	4810	J4	4828	G4	4849	I3	6801	C4	9841	E5	9858	I4	9876	F7	9899	H7
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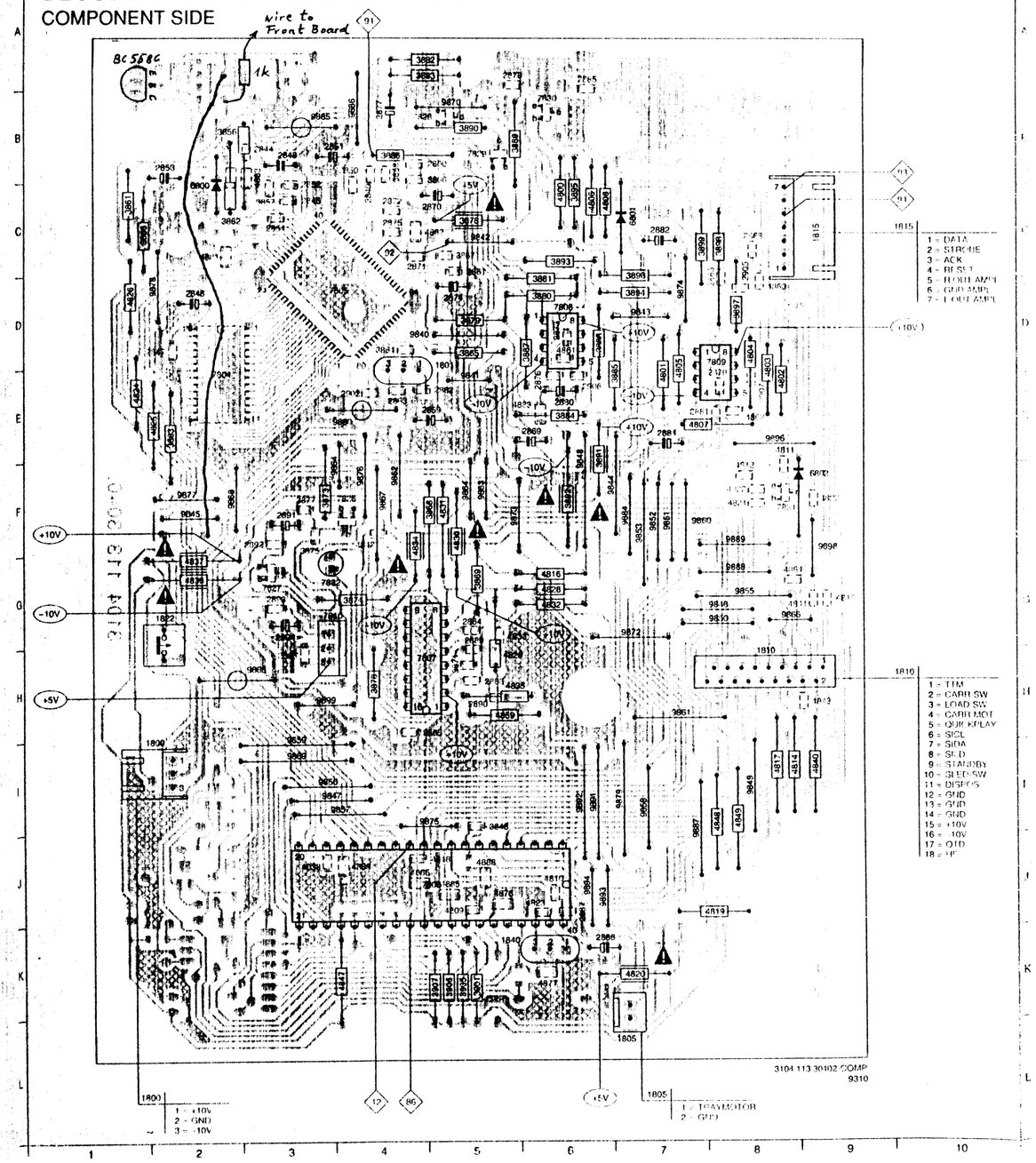
2852	C7	2874	D6	2891	F7	3864	D6	3883	A6	3901	K5	4814	I2	4831	F6	4861	D4	7805	D7	9844	F4	9861	H3	9879	I4		
2853	B9	2875	C6	2892	F8	3865	D5	3884	E1	3905	K6	4815	G1	4832	G4	4862	E2	7806	J6	9845	F8	9862	F6	9880	E7		

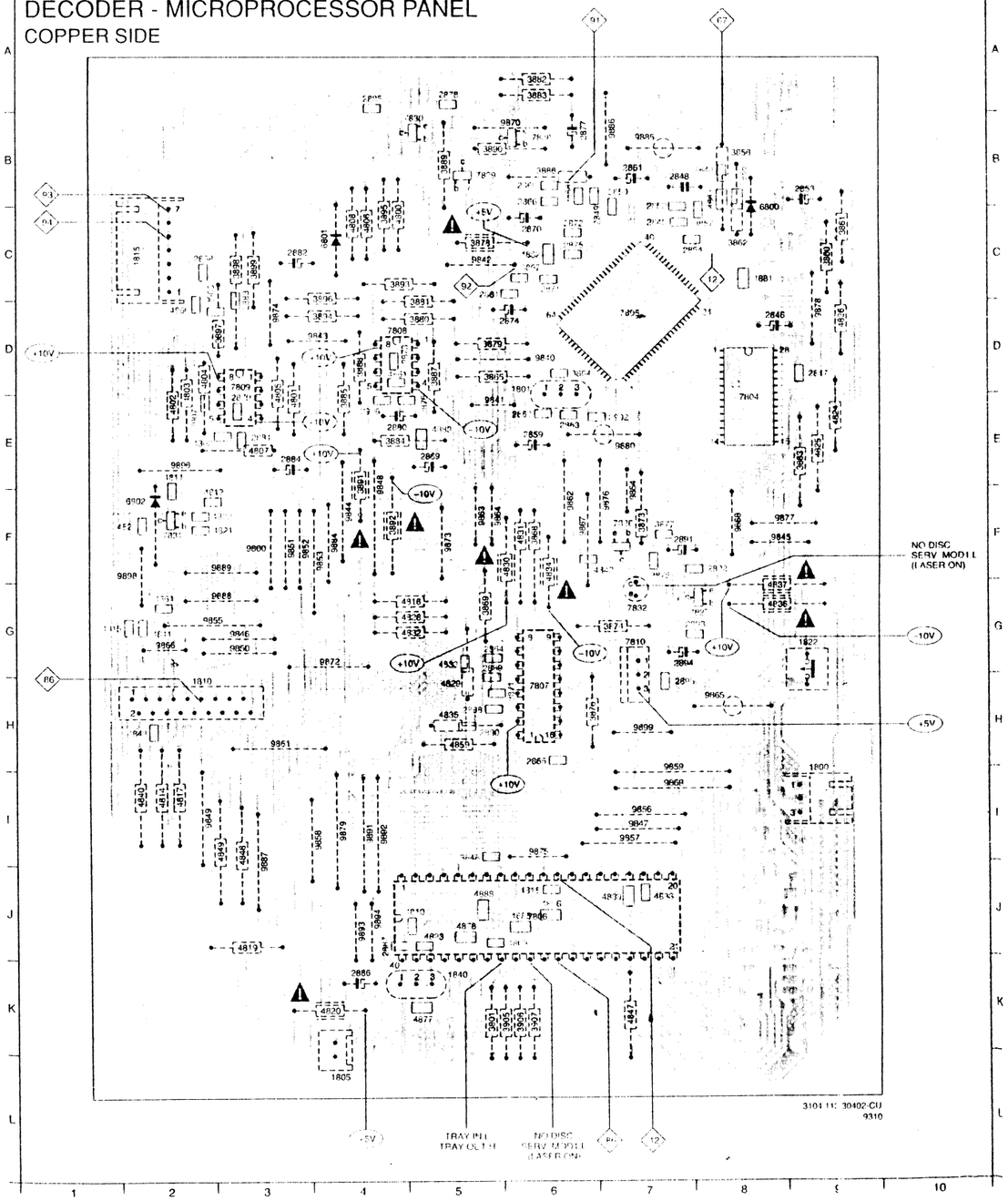
DECODER - MICROPROCESSOR PANEL

COMPONENT SIDE



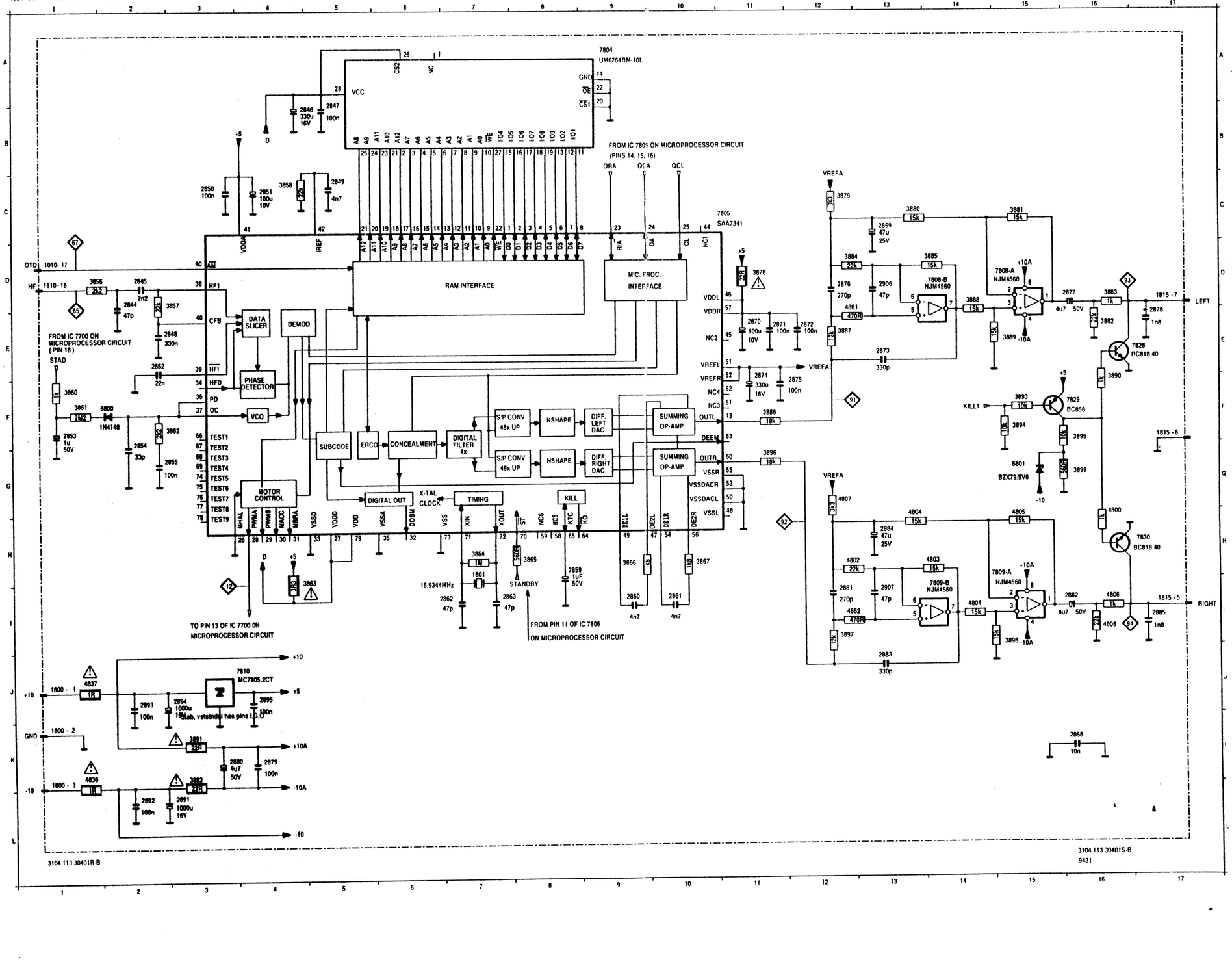
DECODER - MICROPROCESSOR PANEL

COPPER SIDE



DECODER CIRCUIT DIAGRAM

1010 D 1 1800 J 1 1800 K 1 1800 K 1 1801 H 7
1810 D 1 1815 I17 1815 D17 1815 F17 2644 D 2
2845 D 2 2846 B 4 2847 B 5 2848 E 2 2849 C 5
2850 C 3 2851 C 4 2852 E 2 2853 F 1 2854 F 2
2855 G 2 2859 H 8 2860 I 9 2861 I10 2862 I 7
2863 I 7 2868 K16 2869 C13 2870 E11 2871 E11
2872 E12 2873 E13 2874 F11 2875 F12 2876 D12
2877 D16 2878 E17 2879 K 4 2880 K 3 2881 I12
2882 I16 2883 J13 2884 H13 2885 I17 2891 L 3
2892 L 2 2893 J 2 2894 J 3 2895 J 4 2906 D13
2907 I13 3856 D 1 3857 D 2 3858 C 4 3859 B 4
3860 F 1 3861 F 1 3862 F 2 3863 I 5 3864 H 7
3865 H 8 3866 H 9 3867 H10 3878 D11 3879 C12
3880 C13 3881 C15 3882 E16 3883 D16 3884 D12
3885 D14 3886 F11 3887 E12 3888 D14 3889 E15
3890 F16 3891 K 3 3892 K 3 3893 F15 3894 F15
3895 F16 3896 G11 3897 I12 3898 I15 3899 G16
4800 H16 4801 I14 4802 H12 4803 H14 4804 H13
4805 H15 4806 I16 4807 G12 4808 I16 4836 K 1
4837 J 1 4861 E12 4862 I12 6800 F 2 6801 G15
7804 A 9 7808- D15 7808- D14 7809- H14 7809- I14
7810 J 4 7828 E17 7829 F16 7830 H17



12 0V 10us/DIV — 44,4us play mode / stand by +5V

eyepattern

65 2.5V 0,5us/DIV

67 SERVICE POSITION 0, 1, 2: 0V
SERVICE POSTION 3: 5V

91 ANALOG SIGNAL

92 ANALOG SIGNAL

93 ANALOG SIGNAL

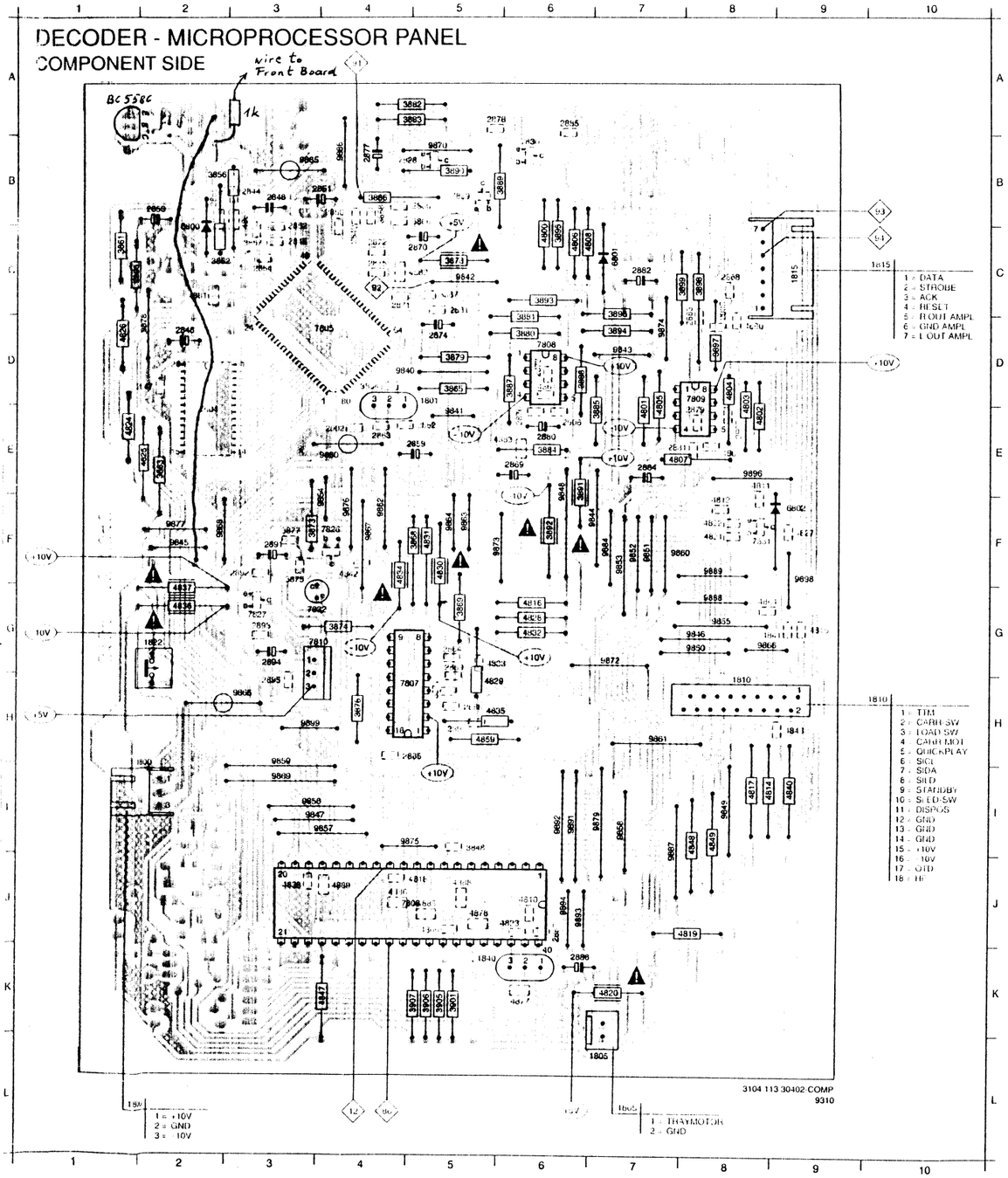
94 ANALOG SIGNAL

1800	I1	2853	B2	2874	D5	2890	H5	3862	C2	3880	D6	3896	D7	4808	C6	4825	E2	4842	F4	4885	J5	7828	B4	9851	F7	9867	F4	9887	J7
1801	D5	2854	C3	2875	C4	2891	F3	3863	E2	3881	D6	3897	D8	4809	J5	4826	D1	4843	H9	4886	J4	7829	B5	9852	F7	9868	F2	9888	G8
1805	L7	2855	B2	2876	E6	2892	F3	3864	D4	3882	A4	3898	C8	4810	J6	4827	F9	4847	K4	4888	J5	7830	B6	9853	F7	9869	I3	9889	F8
1810	H8	2856	E4	2877	B4	2893	G3	3865	D5	3883	A4	3899	C7	4811	E8	4828	G6	4848	I8	4889	J4	7831	F8	9854	F4	9870	B5	9891	I6
1815	C9	2840	B5	2878	A5	2894	G3	3866	B5	3884	E6	3901	K5	4812	F8	4829	H5	4849	I8	6600	C2	7832	G3	9855	G8	9872	G7	9892	I6
1822	G2	2861	C5	2879	E8	2895	H3	3867	C5	3885	E7	3905	K5	4814	I8	4830	F5	4859	H5	6601	C7	9840	D4	9856	I3	9873	F5	9893	J6
1840	K6	2862	E5	2880	E6	2902	E4	3868	F5	3886	B4	3906	K5	4815	G9	4831	F5	4860	D8	6602	F9	9841	E5	9857	I3	9874	D7	9894	J6
2841	B3	2863	E4	2881	E7	2905	D8	3869	G5	3887	D6	3907	K5	4816	G6	4832	G6	4861	D6	7604	E2	9842	C5	9858	I7	9875	I4	9896	E8
2845	C3	2864	G5	2882	C7	2906	E6	3871	H5	3888	D6	4800	C6	4817	I8	4833	G5	4862	E8	7605	D3	9843	D7	9859	I3	9876	F4	9898	F9
2846	C2	2865	H4	2883	D8	2907	E8	3873	F3	3889	B5	4801	E7	4818	J5	4834	G4	4863	C3	7606	J4	9844	F7	9860	F7	9877	F2	9899	H3
2847	D1	2868	C8	2884	E7	2848	I5	3874	G4	3890	B5	4802	E8	4819	J7	4835	H5	4864	G8	7607	H4	9845	F2	9861	H7	9878	D2		
2848	H3	2869	E6	2885	A6	2856	B2	3875	F3	3891	F6	4803	I8	4820	K7	4836	G2	4877	K6	7608	D6	9846	G8	9862	F4	9879	I7		
2849	C4	2870	C4	2886	K6	3857	C3	3876	H4	3892	F6	4804	D8	4821	F8	4837	G2	4878	J5	7609	D8	9847	I3	9863	F5	9880	E3		
2850	J4	2871	C4	2887	J6	3858	B4	3877	F3	3893	C6	4805	E7	4822	F8	4838	J3	4881	C2	7810	G3	9848	F6	9864	F5	9884	F7		
2851	B3	2872	C4	2888	H5	3860	C1	3878	C5	3894	D7	4806	C6	4823	J6	4840	I9	4882	C4	7626	F4	9849	I8	9865	H3	9885	B3		
2852	C3	2873	D6	2889	G5	3861	C1	3879	D5	3895	C6	4807	E7	4824	E1	4841	G8	4883	E5	7627	G3	9850	G8	9866	G8	9886	B4		

1800	I9	2854	C7	2876	E5	2893	G7	3866	B6	3885	E4	3906	K6	4816	G4	4833	G5	4863	C8	7807	H6	9846	G3	9863	F5	9884	F4		
1801	D6	2855	B8	2877	B6	2894	G7	3867	C6	3886	B6	3907	K6	4817	I2	4834	G6	4864	G2	7808	D4	9847	I7	9864	F6	9885	B7		
1805	L4	2859	E6	2878	A5	2895	H7	3868	F6	3887	D5	4800	C4	4818	J6	4835	H5	4877	K5	7809	D3	9848	F4	9865	H8	9886	B7		
1810	H2	2860	B6	2879	E3	2902	E7	3869	G5	3888	D4	4801	E3	4819	J3	4836	G8	4878	J5	7810	G7	9849	I2	9866	G2	9887	J3		
1815	C2	2861	C5	2880	E4	2905	D3	3871	H6	3889	B5	4802	E2	4820	K4	4837	G8	4881	C8	7826	F7	9850	G3	9867	F6	9888	G2		
1822	G9	2862	E6	2881	E3	2906	E4	3873	F7	3890	B5	4803	E2	4821	F2	4838	J7	4882	C6	7827	G7	9851	F3	9868	F8	9889	F2		
1840	K5	2863	E6	2882	C3	2907	E2	3874	G7	3891	F4	4804	D2	4822	F2	4840	I2	4883	E5	7828	B6	9852	F3	9869	I7	9891	I4		
2844	B8	2864	G5	2883	D3	3848	I5	3875	F7	3892	F4	4805	E3	4823	J5	4841	G2	4885	J6	7829	B5	9853	F4	9870	B6	9892	I4		
2845	C7	2865	H6	2884	E3	3856	B8	3876	H6	3893	C4	4806	C4	4824	E9	4842	F6	4886	J6	7830	B5	9854	F7	9872	G4	9893	J4		
2846	D8	2868	C2	2885	A4	3857	C8	3877	F7	3894	D4	4807	E3	4825	E9	4843	H2	4888	J5	7831	F2	9855	G2	9873	F5	9894	J4		
2847	D9	2869	E5	2886	K4	3858	B6	3878	C5	3895	C4	4808	C4	4826	D9	4847	K7	4889	J7	7832	G7	9856	I7	9874	D5	9896	E2		
2848	B7	2870	C6	2887	J4	3860	C9	3879	D5	3896	D4	4809	J6	4827	F1	4848	I3	6800	C8	9840	D6	9857	I7	9875	I6	9898	F1		
2849	C7	2871	C6	2888	H5	3861	C9	3880	D5	3897	D3	4810	J4	4828	G4	4849	I3	6801	C4	9841	E5	9858	I4	9876	F7	9899	H7		
2850	B7	2872	C6	2889	G5	3862	C8	3881	D5	3898	C3	4811	E2	4829	H5	4859	H5	6802	F2	9842	C5	9859	I7	9877	F8				
2851	B7	2873	D5	2890	H5	3863	E9	3882	A6	3899	C3	4812	F2	4830	F6	4860	D2	7804	E8	9843	D3	9860	F3	9878	D9				
2852	C7	2874	D6	2891	F7	3864	D6	3883	A6	3901	K5	4814	I2	4831	F6	4861	D4	7805	D7	9844	F4	9861	H3	9879	I4				
2853	B9	2875	C6	2892	F8	3865	D5	3884	E4	3905	K6	4815	G1	4832	G4	4862	E2	7806	J6	9845	F8	9862	F6	9880	E7				

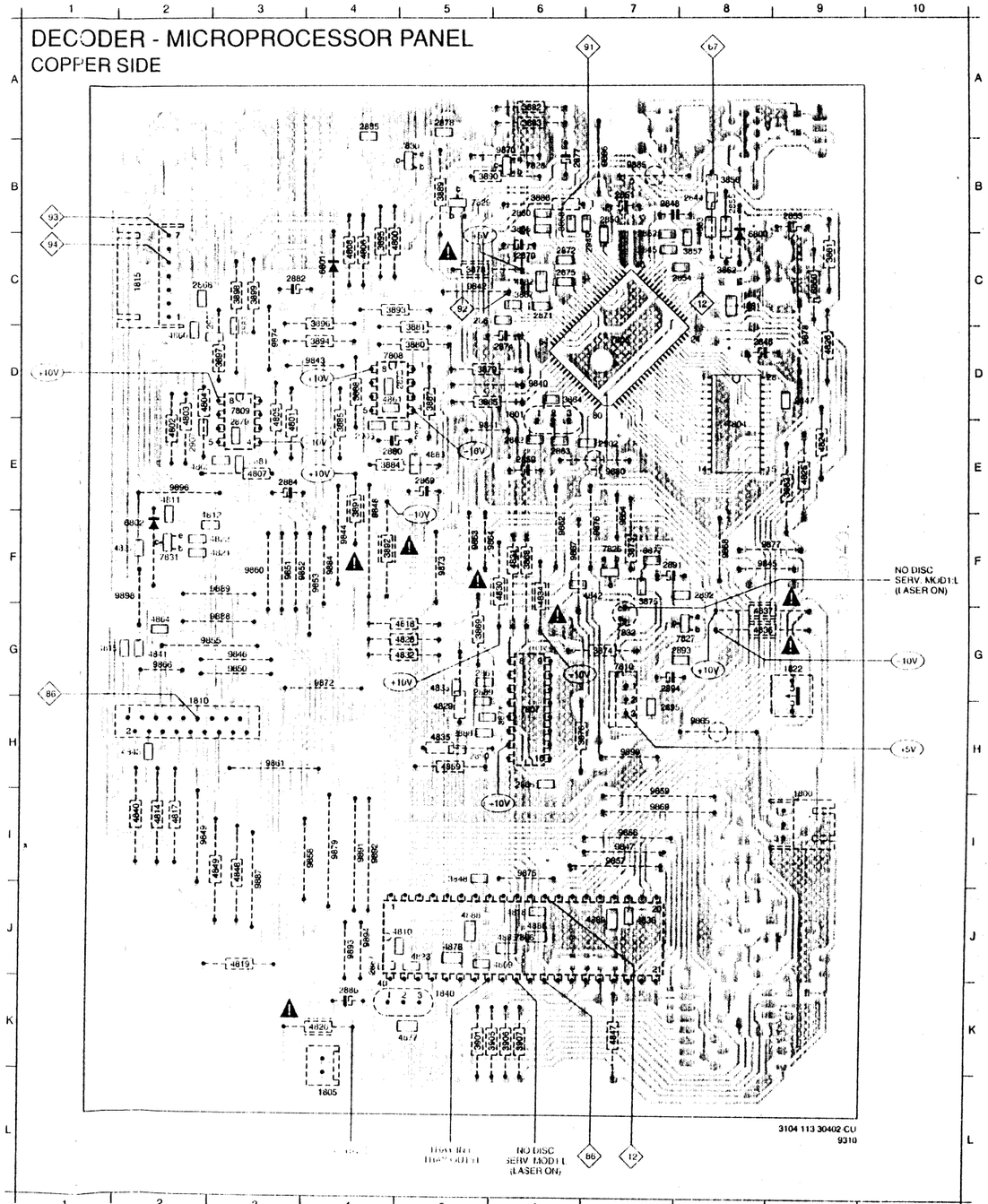
DECODER - MICROPROCESSOR PANEL

COMPONENT SIDE



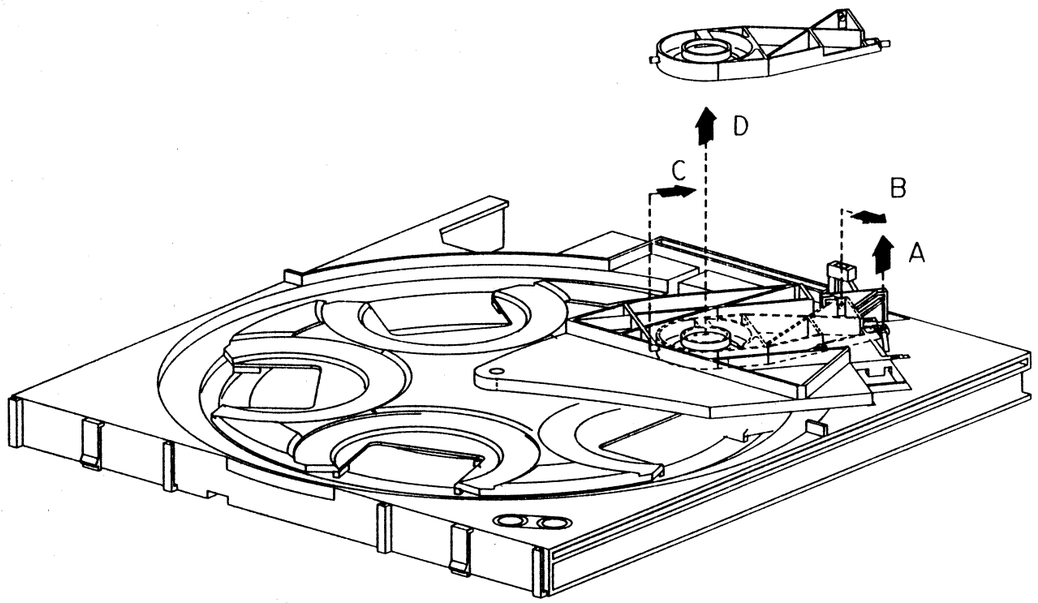
DECODER - MICROPROCESSOR PANEL

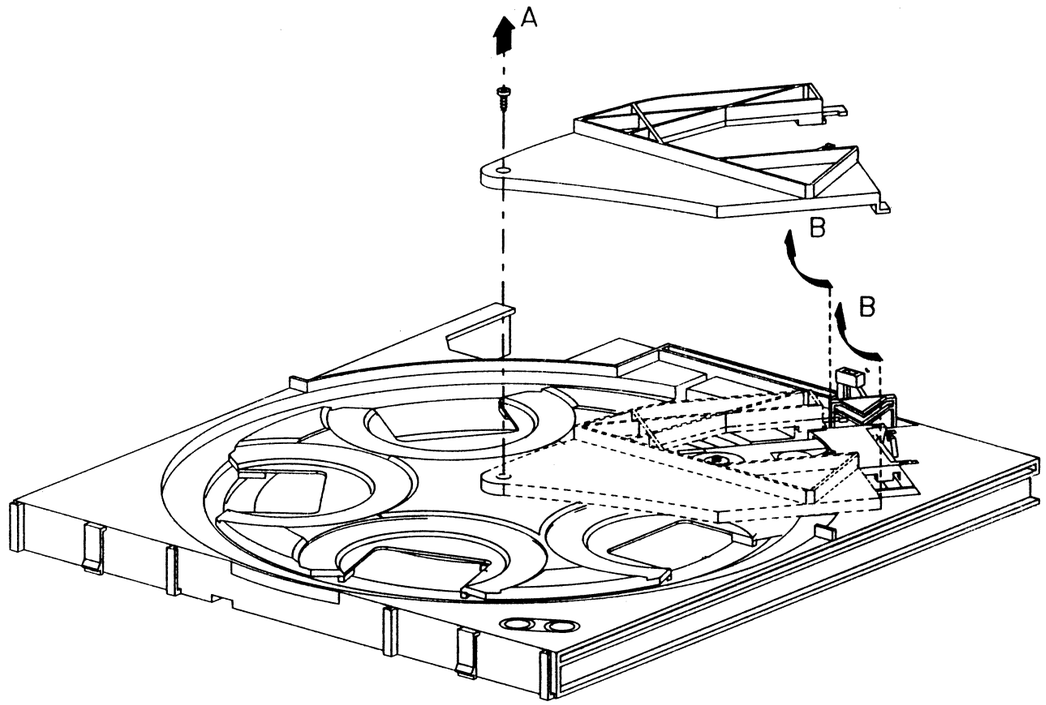
COPPER SIDE

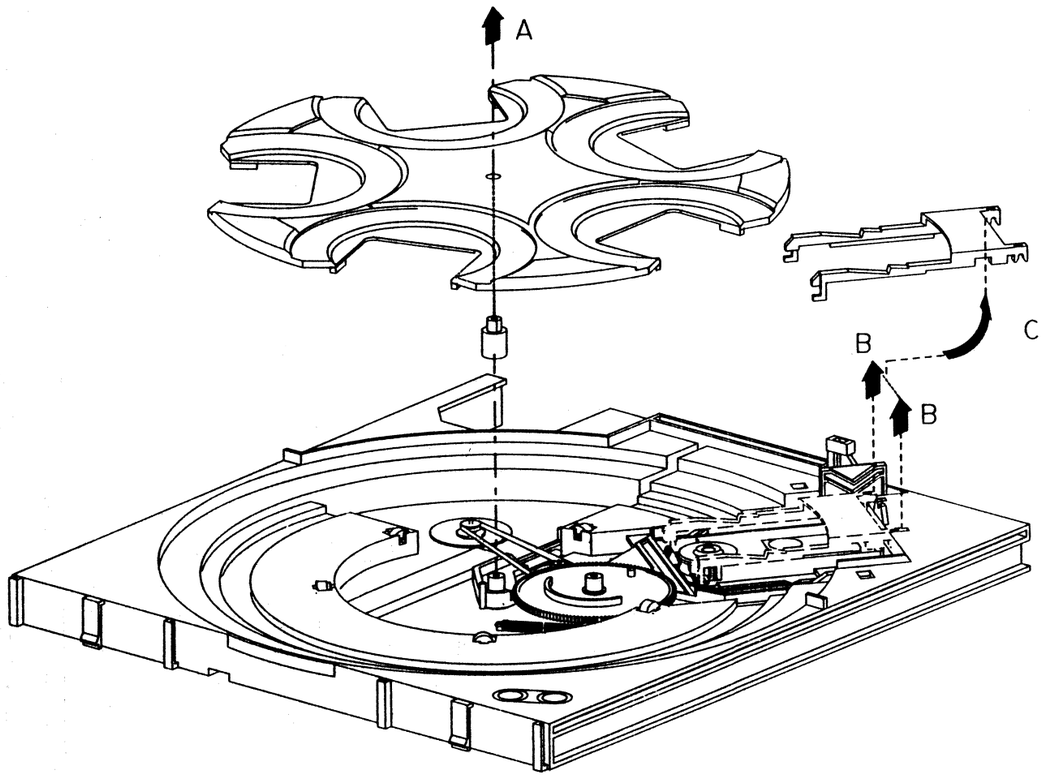


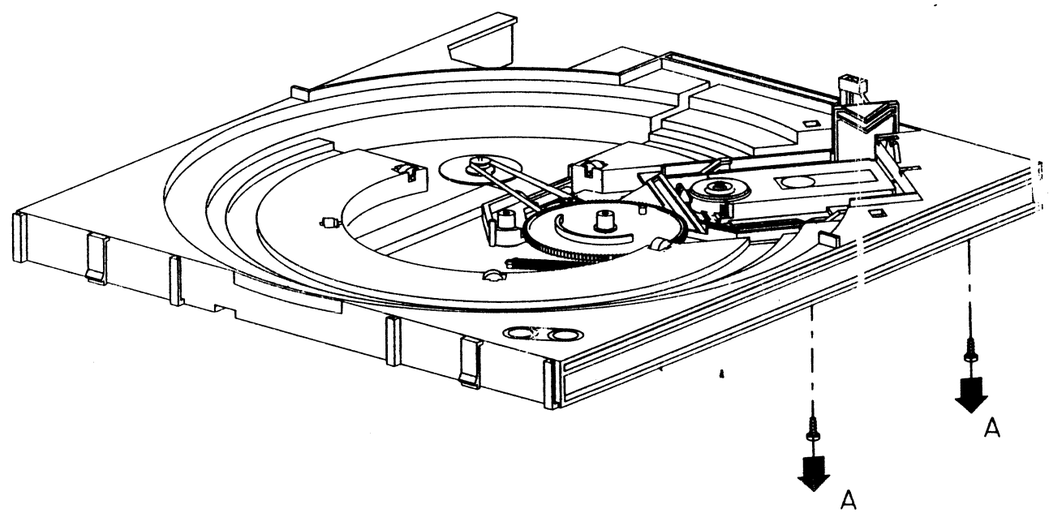
CS 51 691

DEMOUNTING OF CARROUSEL
DEMOUNTING OF CDM

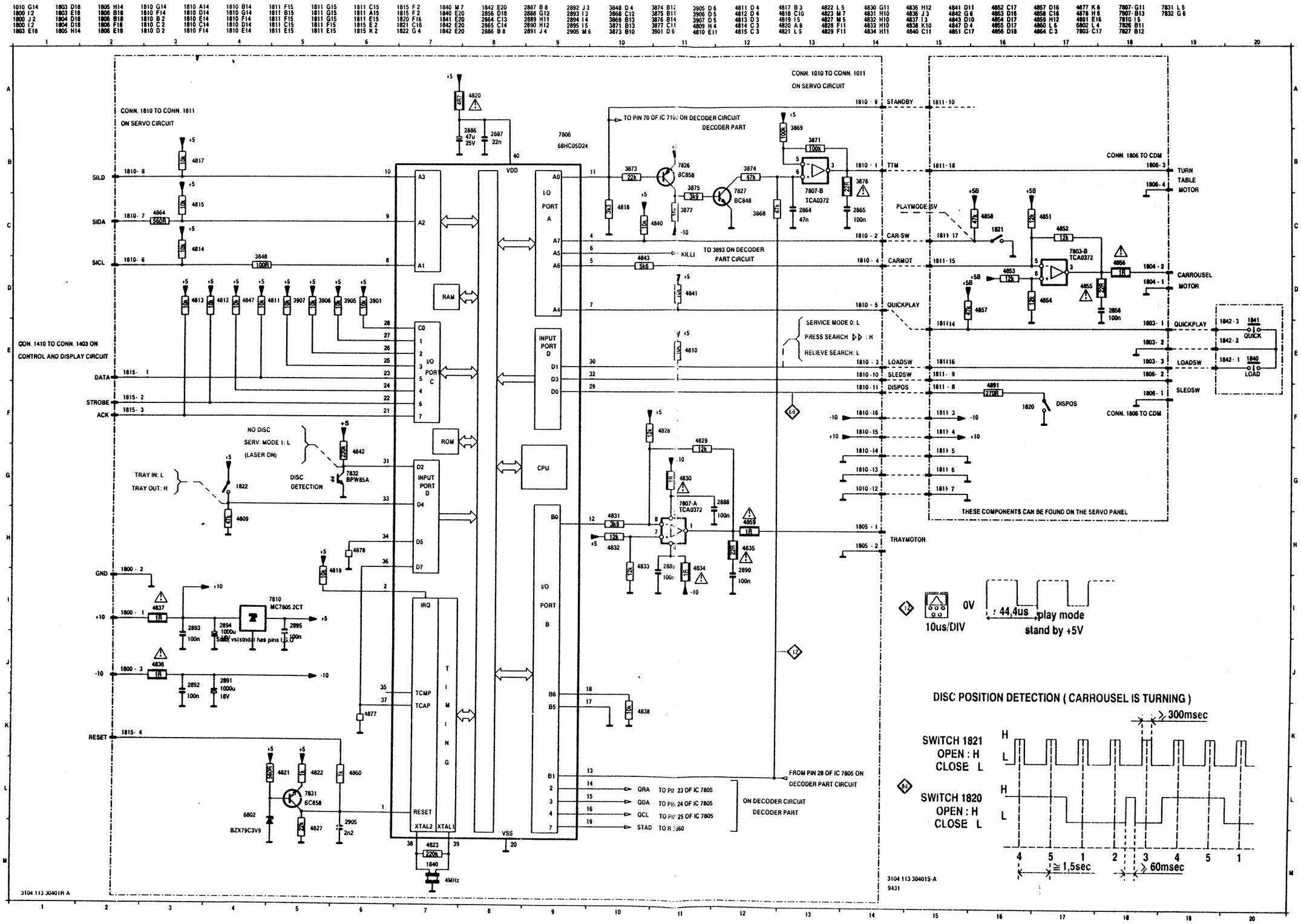




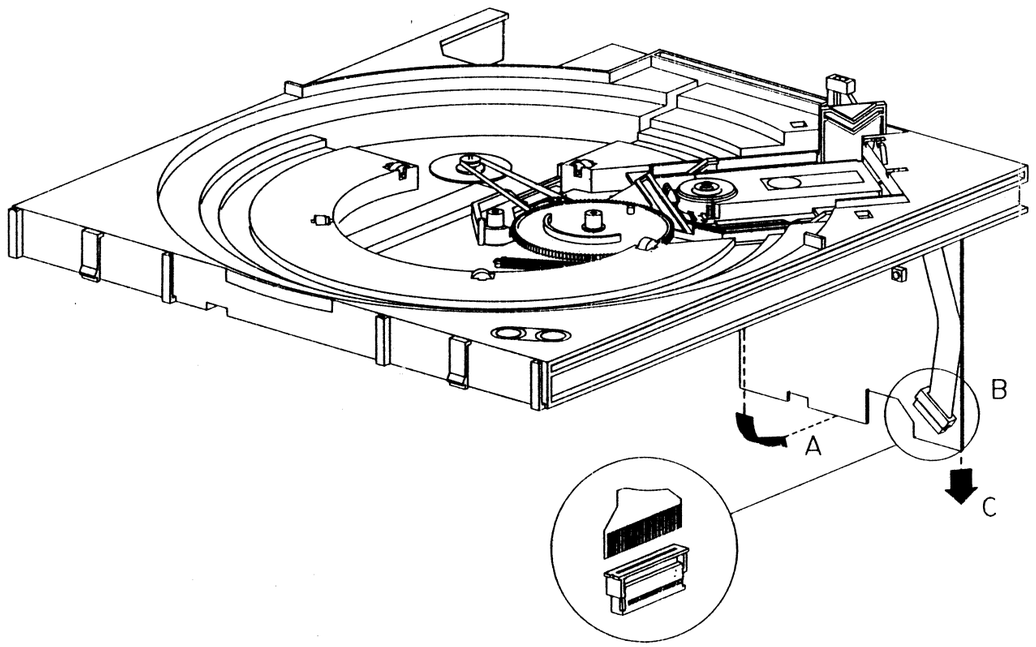


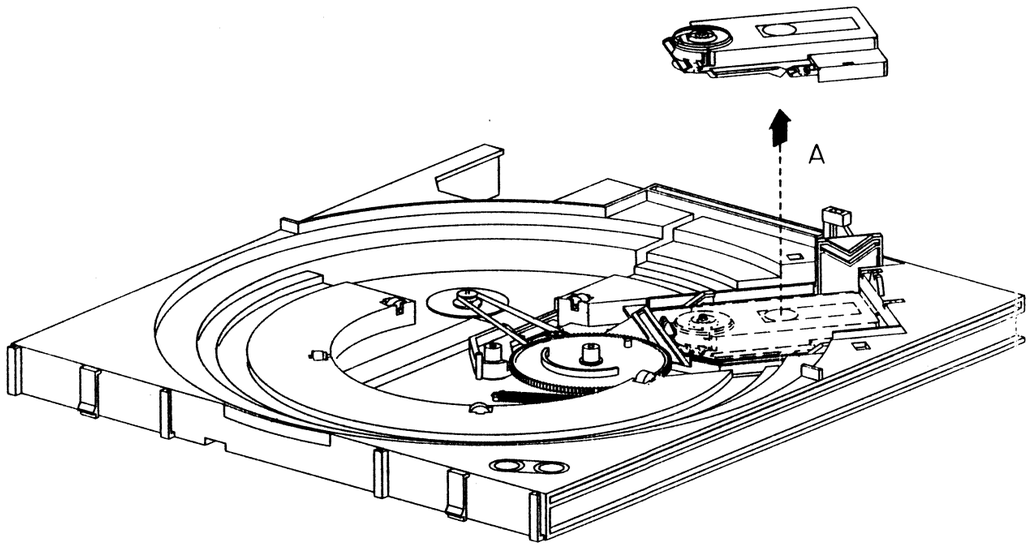


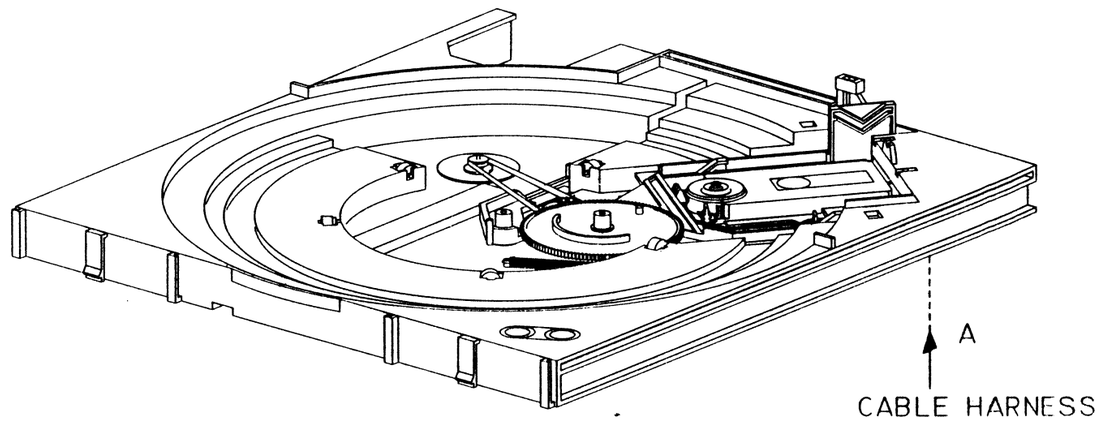
MICROPROCESSOR CIRCUIT DIAGRAM



DEMOUNTING OF CDM







Partslist Loading

89	4822 466 93131	PRESSURE PLATE
90	4822 256 91912	PRESSURE RING HOLDER
91 + 92:	4822 532 52386	PRESSURE RING
94 + 128 + 129 + 130 + 141 + 142 + 144:	4822 426 90109	FRAME ASSY
95	4822 522 33255	GEARWHEEL
96	4822 535 40105	CRANK
98	4822 691 30278	CDM12.1
99	4822 403 70598	CDM LOCKING
100	4822 466 93129	ROTARY DISC
101	4822 520 20758	BEARING
103	4822 401 11447	TRAY TUMBLER
104 - 107	4822 466 93065	BLOCK
108 + 110 + 121 + 123 + 131 + 136 + 137 + 138 + 139 + 140:	4822 444 50685	TRAY ASSY
109	4822 532 51756	GROMMET
110	4822 401 11444	BRACKET
113	4822 492 52313	TENSION SPRING
114	4822 256 91915	SUPPORT
115 + 124 + 125	4822 466 93134	SLIDE STRIP
116	4822 522 33256	CAM WHEEL
119	4822 528 50335	MOTOR
120	4822 528 50335	MOTOR
121	4822 528 50334	PULLEY
122	4822 358 10115	DRIVING BELT
127 - 128 - 129 - 131 - 141 - 142	4822 466 93132	GUIDE
132	4822 403 70599	KEY UNIT
133	4822 466 93171	COVER
136 - 140	4822 528 70646	ROLLER
144	4822 528 50334	PULLEY
145	4822 358 10115	DRIVING BELT
146 - 147	4822 402 50291	LIFT TUMBLER
148 - 150	4822 492 52123	COMPRESSION SPRING

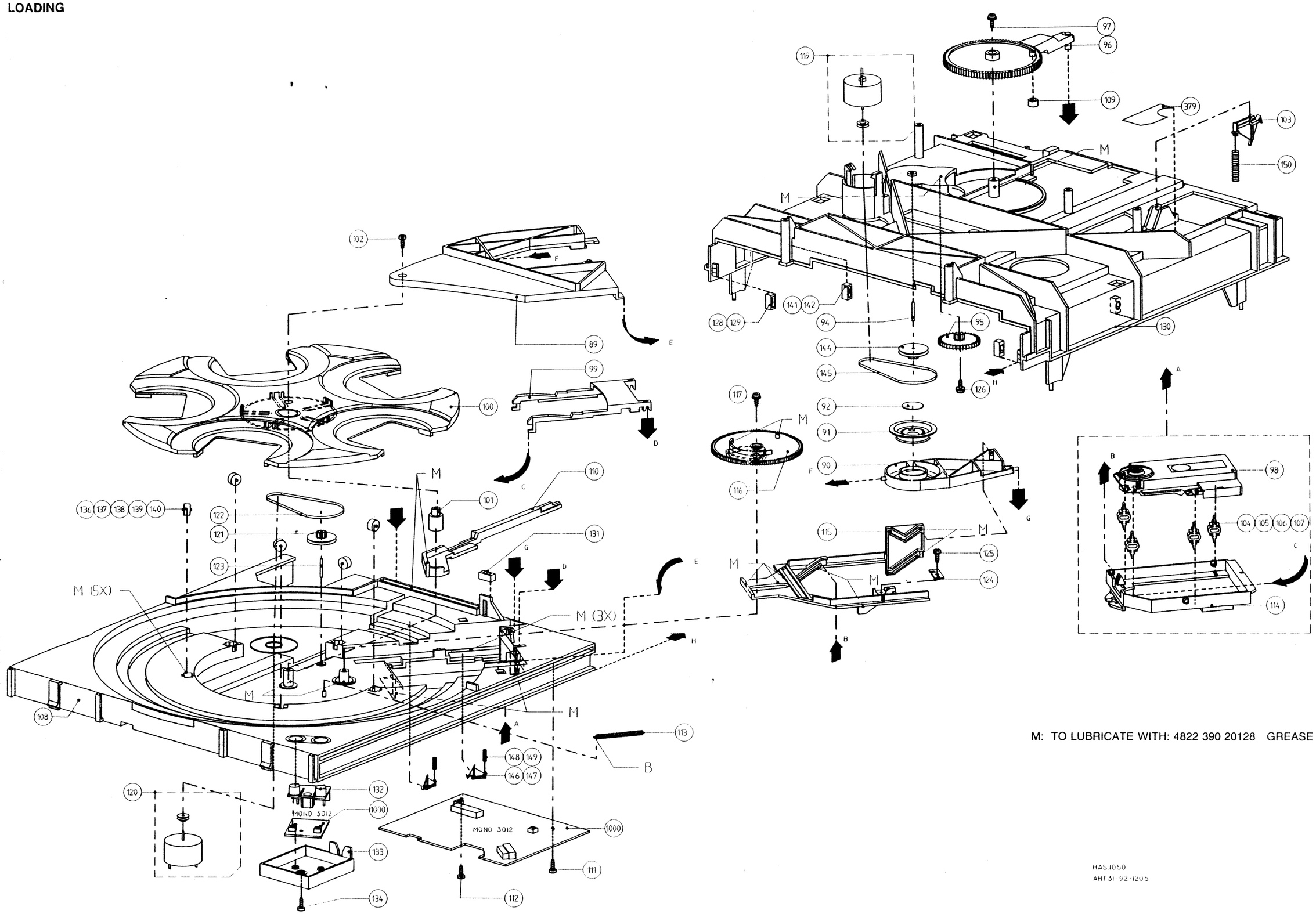
Plastite M3x10:
78, 79, 111, 112, 202, 203, 204, 259, 260
261, 262, 269, 270, 271

Plastite M3x12:
30, 31, 32, 33, 34, 37, 40, 41, 42, 43

M3x10 + washer:
97, 117, 126, 171, 172, 173, 174, 175, 176,
177, 178, 267, 268

M3x16:
102, 134

EXPLODED VIEW
LOADING

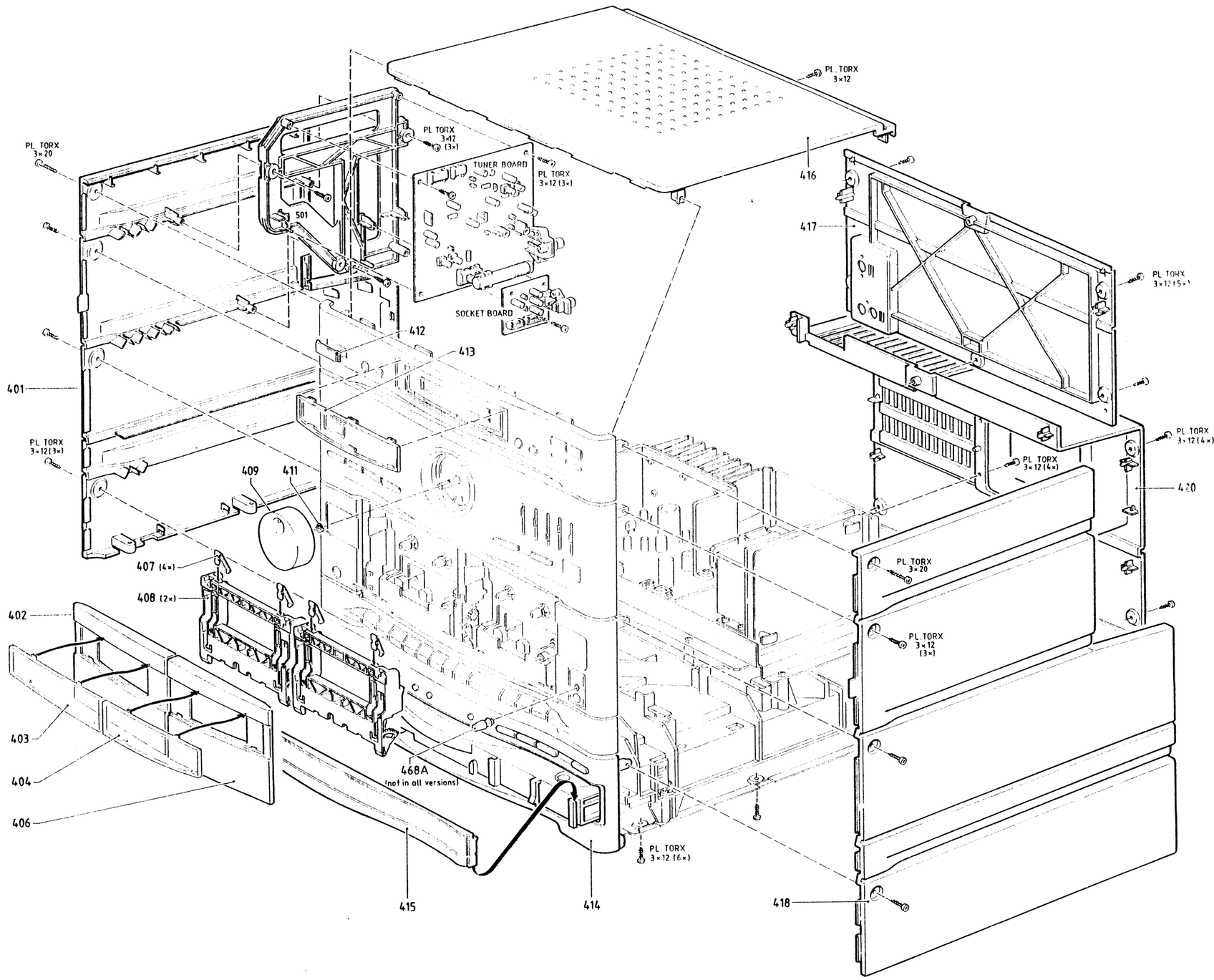


M: TO LUBRICATE WITH: 4822 390 20128 GREASE

HAS 1050
AHT 51 92-1205

CS 51 695

EXPLODED VIEW OF SET I

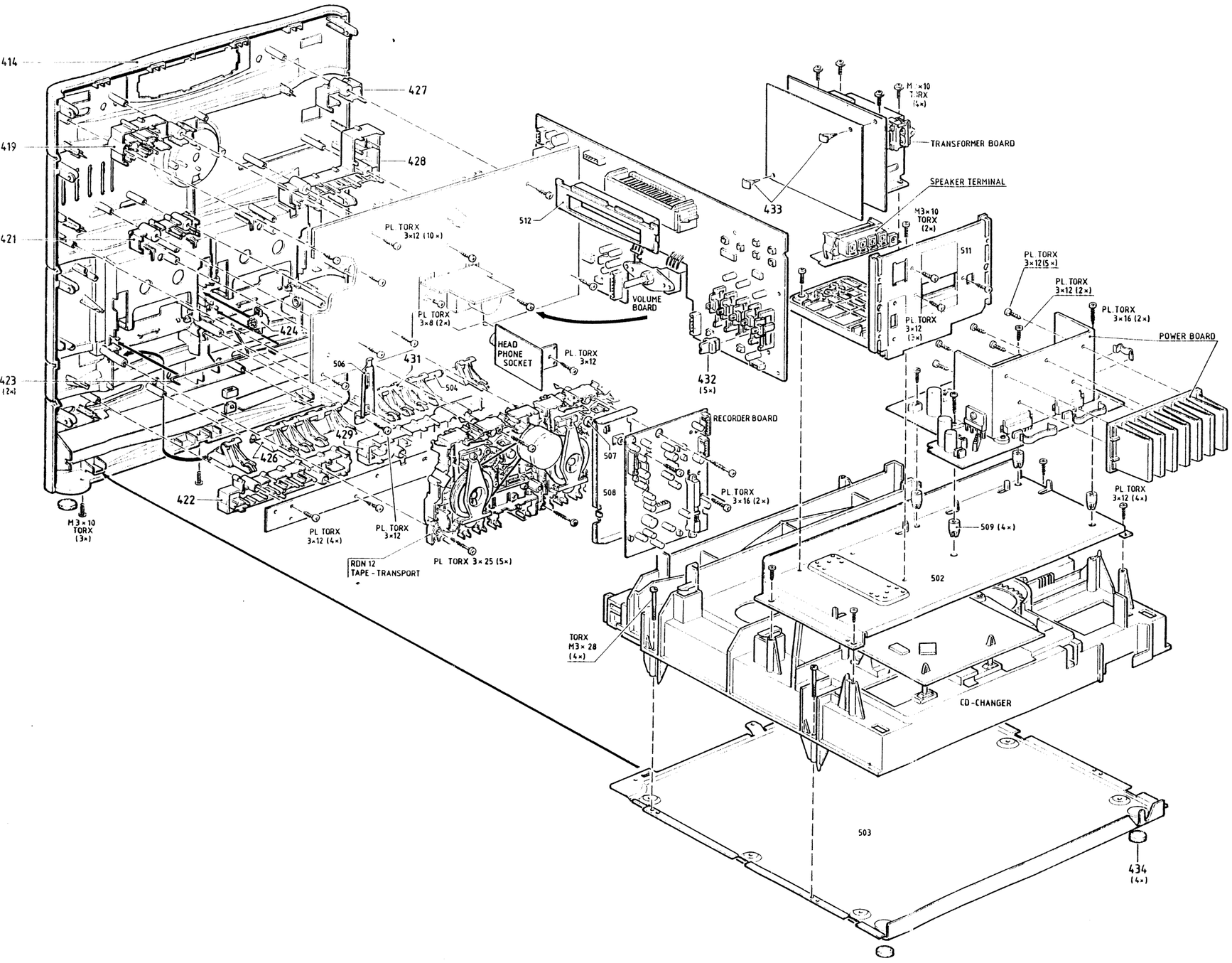


MECHANICAL PARTS

401	non-service part	
402	4822 443 64289	Orn Cassette Door Left
403	4822 450 62087	Window Cassette Left
404	4822 450 62088	Window Cassette Right
406	4822 443 64291	Orn Cassette Door Right
407	4822 492 63927	Leaf Spring
408	4822 443 63037	Technical Cassette Door
409	4822 413 41881	Knob Volume
411	4822 492 51374	Ring
412	4822 381 11418	Window I.R.
413	4822 450 62324	Window
414	4822 426 51773	Front Cabinet for AS655
414	4822 426 51767	Front Cabinet for AS650
415	4822 443 41486	Front CDC Tray
416	4822 426 60639	Top Cover for AS650
417	non-service part	
418	non-service part	
419	4822 410 63479	Knob Preset Up/Down
420	non-service part	
421	4822 410 62683	Knob HSD + Chrome
422	4822 410 63483	Knob CDC Right
423	4822 492 42595	Spring Eject
424	4822 529 10278	Damper Cassette Door
426	4822 410 63478	Button Set Play
427	4822 410 62623	Knob Auto Program
428	4822 410 62617	Knob Selector + Power
429	4822 410 63482	Knob CDC Left
431	4822 410 63477	Button Set Rec/Pb
432	4822 411 61929	Knob Equalizer
433	4822 466 93146	Spacer 5mm
434	4822 462 40683	Plate Foot
468A	4822 410 62622	Knob Micro-mix

Note: Only the parts mentioned in this list are normal service spare parts.

EXPLODED VIEW OF SET II



MECHANICAL PARTS

401	non-service part	
402	4822 443 64289	Orn Cassette Door Left
403	4822 450 62087	Window Cassette Left
404	4822 450 62088	Window Cassette Right
406	4822 443 64291	Orn Cassette Door Right
407	4822 492 63927	Leaf Spring
408	4822 443 63037	Technical Cassette Door
409	4822 413 41881	Knob Volume
411	4822 492 51374	Ring
412	4822 381 11418	Window I.R.
413	4822 450 62324	Window
414	4822 426 51773	Front Cabinet for AS655
414	4822 426 51767	Front Cabinet for AS650
415	4822 443 41486	Front CDC Tray
416	4822 426 60639	Top Cover for AS650
417	non-service part	
418	non-service part	
419	4822 410 63479	Knob Preset Up/Down
420	non-service part	
421	4822 410 62683	Knob HSD + Chrome
422	4822 410 63483	Knob CDC Right
423	4822 492 42595	Spring Eject
424	4822 529 10278	Damper Cassette Door
426	4822 410 63478	Button Set Play
427	4822 410 62623	Knob Auto Program
428	4822 410 62617	Knob Selector + Power
429	4822 410 63482	Knob CDC Left
431	4822 410 63477	Button Set Rec/Pb
432	4822 411 61929	Knob Equalizer
433	4822 466 93148	Spacer 5mm
434	4822 462 40683	Plate Foot
468A	4822 410 62622	Knob Micro-mix

Note: Only the parts mentioned in this list are normal service spare parts.

MICRO MIX BOARD

MISCELLANEOUS

1900	4822 267 40659	Microphone socket

2900	4822 124 40242	1µF 20% 63V
2901	4822 122 33195	100pF 10% 50V
2902	4822 122 33519	470pF 10% 50V
2903	4822 122 33848	47pF 5% 50V
2904	4822 124 40248	10µF 20% 63V
2905	4822 122 33848	47pF 5% 50V
2906	4822 122 33848	47pF 5% 50V
2907	4822 124 40248	10µF 20% 63V
2908	4822 124 40248	10µF 20% 63V
2909	4822 122 33195	100pF 10% 50V
2910	4822 122 33519	470pF 10% 50V
2911	4822 122 33848	47pF 5% 50V
2912	4822 126 12787	330pF 10% 50V
2913	4822 124 40242	1µF 20% 63V
2914	4822 122 33848	47pF 5% 50V
2915	4822 124 40248	10µF 20% 63V
2916	4822 124 40248	10µF 20% 63V
2917	4822 124 41525	100µF 20% 25V
2918	4822 126 11585	22nF +80-20% 25V
2919	4822 124 40433	47µF 20% 25V

3900	4822 116 52256	2k2 5% 0.5W
3901	4822 116 52175	100Ω 5% 0.5W
3902	4822 116 52224	470Ω 5% 0.5W
3903	4822 116 52234	100k 5% 0.5W
3904	4822 116 52234	100k 5% 0.5W
3905	4822 100 30191	Potm Rotary 20k 20% 0.5W
3906	4822 116 52175	100Ω 5% 0.5W
3907	4822 116 52234	100k 5% 0.5W
3908	4822 116 52238	12k 5% 0.5W
3909	4822 116 52233	10k 5% 0.5W
3910	4822 116 52224	470Ω 5% 0.5W
3911	4822 116 52238	12k 5% 0.5W
3912	4822 116 52303	8k2 5% 0.5W

7900	4822 209 83274	NJM4560D

ote: Only the parts mentioned in this list are normal service
)are parts.

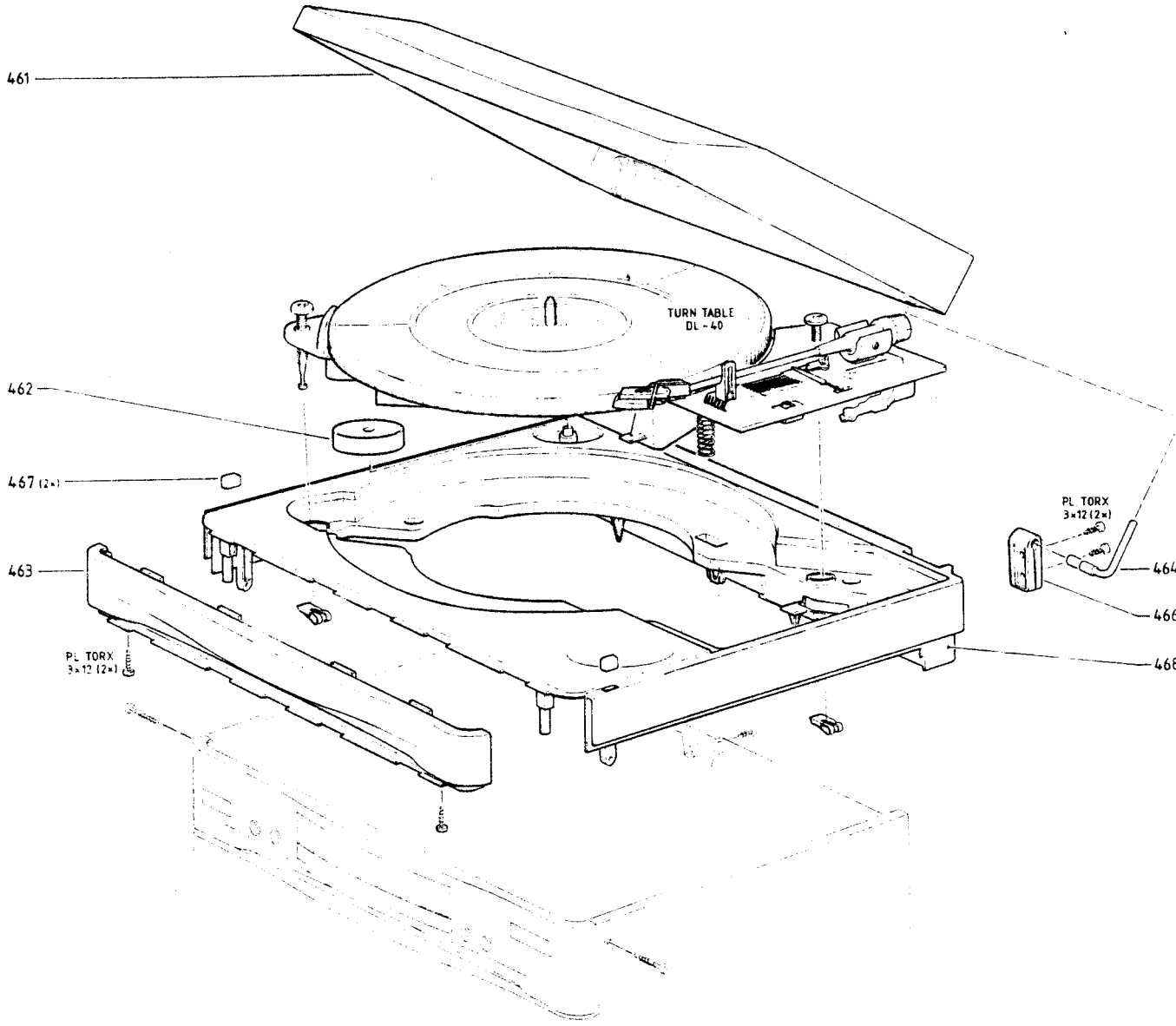
FRONT BOARD

MISCELLANEOUS

1408	4822 267 30631	Cinch Socket
1410	4822 267 40659	Headphone Socket
1415	4822 130 91251	Display
1416	4822 134 40965	Lamp 150mA 12V
1417	4822 134 40965	Lamp 150mA 12V
1421	4822 276 13114	Tact Switch
1422	4822 276 13114	Tact Switch
1423	4822 276 13114	Tact Switch
1425	4822 276 13114	Tact Switch
1426	4822 276 13114	Tact Switch
1433	4822 276 13114	Tact Switch
1434	4822 276 13114	Tact Switch
1435	4822 276 13114	Tact Switch
1436	4822 276 13114	Tact Switch
1437	4822 276 13114	Tact Switch
1438	4822 276 13114	Tact Switch
1439	4822 276 13114	Tact Switch
1440	4822 276 13114	Tact Switch
1444	4822 276 13114	Tact Switch
1448	4822 276 13114	Tact Switch
1450	4822 276 13114	Tact Switch
1451	4822 276 13114	Tact Switch
1452	4822 276 13114	Tact Switch
1453	4822 276 13114	Tact Switch
1454	4822 276 13114	Tact Switch
1455	4822 276 13114	Tact Switch
1456	4822 276 13114	Tact Switch
1457	4822 276 13114	Tact Switch
1458	4822 276 13114	Tact Switch
1459	4822 276 13114	Tact Switch
1460	4822 276 13114	Tact Switch
1461	4822 276 13114	Tact Switch
1462	4822 276 13114	Tact Switch
1463	4822 276 13114	Tact Switch

2401	4822 124 40239	0.47µF 20% 63V
2402	4822 124 40239	0.47µF 20% 63V
2403	4822 124 40239	0.47µF 20% 63V
2404	4822 124 40239	0.47µF 20% 63V
2405	4822 124 40239	0.47µF 20% 63V
2406	4822 124 40239	0.47µF 20% 63V
2407	4822 124 40239	0.47µF 20% 63V
2408	4822 124 40239	0.47µF 20% 63V
2409	4822 122 33848	47pF 5% 50V
2410	4822 122 33848	47pF 5% 50V
2411	4822 122 33848	47pF 5% 50V
2412	4822 122 33848	47pF 5% 50V
2413	4822 122 33848	47pF 5% 50V
2414	4822 122 33848	47pF 5% 50V
2415	4822 122 33848	47pF 5% 50V

Exploded view Record Player (For AS655)



MECHANICAL PARTS

461	4822 462 71935	Dust Cover
462	4822 466 92642	Adaptor
463	4822 444 30496	Front Turntable
464	4822 535 93499	Clamping Pen
466	4822 417 10631	Clamping Block
467	4822 462 41656	Rubber Pad
468	non-service part	

Note: Only the parts mentioned in this list are normal service spare parts.

For detailed information on the Record Player see Annex (Service Manual DL-40)

3428	4822 116 52257	22k 5% 0.5W
3431	4822 116 52263	2k7 5% 0.5W
3432	4822 116 52263	2k7 5% 0.5W
3433	4822 116 52276	3k9 5% 0.5W
3434	4822 116 52276	3k9 5% 0.5W
3435	4822 050 11002	1k 1% 0.4W
3436	4822 050 11002	1k 1% 0.4W
3437	4822 116 52276	3k9 5% 0.5W
3438	4822 116 52276	3k9 5% 0.5W
3439	4822 116 52224	470Ω 5% 0.5W
3440	4822 116 52224	470Ω 5% 0.5W
3441	4822 116 52224	470Ω 5% 0.5W
3442	4822 116 52224	470Ω 5% 0.5W
3443	4822 116 52291	56k 5% 0.5W
3444	4822 116 52291	56k 5% 0.5W
3445	4822 116 52271	33k 5% 0.5W
3446	4822 116 52271	33k 5% 0.5W
3447	4822 116 52271	33k 5% 0.5W
3448	4822 116 52271	33k 5% 0.5W
3449	4822 116 52264	27k 5% 0.5W
3450	4822 116 52264	27k 5% 0.5W
3451	4822 116 52271	33k 5% 0.5W
3452	4822 116 52271	33k 5% 0.5W
3455	4822 116 52271	33k 5% 0.5W
3456	4822 116 52271	33k 5% 0.5W
3457	4822 116 52264	27k 5% 0.5W
3458	4822 116 52264	27k 5% 0.5W
3459	4822 116 52271	33k 5% 0.5W
3460	4822 116 52271	33k 5% 0.5W
3461	4822 116 52271	33k 5% 0.5W
3462	4822 116 52271	33k 5% 0.5W
3463	4822 116 52285	470k 5% 0.5W
3464	4822 116 52285	470k 5% 0.5W
3465	4822 116 52296	6k8 5% 0.5W
3466	4822 116 52296	6k8 5% 0.5W
3469	4822 116 52283	4k7 5% 0.5W
3470	4822 116 52283	4k7 5% 0.5W
3471	4822 116 52256	2k2 5% 0.5W
3472	4822 116 52256	2k2 5% 0.5W
3473	4822 116 52257	22k 5% 0.5W
3474	4822 116 52257	22k 5% 0.5W
3475	4822 116 52224	470Ω 5% 0.5W
3476	4822 116 52224	470Ω 5% 0.5W
3477	4822 116 52256	2k2 5% 0.5W
3478	4822 116 52283	4k7 5% 0.5W
3480	4822 101 90248	Potm 50k W/Motor
3481	4822 101 21102	Potm Slide 50k
3482	4822 101 21102	Potm Slide 50k
3483	4822 101 21102	Potm Slide 50k
3484	4822 101 21102	Potm Slide 50k
3485	4822 101 21102	Potm Slide 50k
3486	4822 050 11002	1k 1% 0.4W

3487	4822 050 11002	1k 1% 0.4W
3488	4822 050 11002	1k 1% 0.4W
3489	4822 050 11002	1k 1% 0.4W
3490	4822 116 52215	220Ω 5% 0.5W
3491	4822 116 52233	10k 5% 0.5W
3492	4822 116 52228	680Ω 5% 0.5W
3493	4822 116 52215	220Ω 5% 0.5W
3494	4822 116 52215	220Ω 5% 0.5W
3495	4822 116 52215	220Ω 5% 0.5W
3496	4822 116 52215	220Ω 5% 0.5W
3497	4822 116 52257	22k 5% 0.5W
3498	4822 116 52233	10k 5% 0.5W
3499	4822 116 52215	220Ω 5% 0.5W
3500	4822 116 52217	270Ω 5% 0.5W
3501	4822 116 52269	3k3 5% 0.5W
3502	4822 050 11002	1k 1% 0.4W
3503	4822 050 11002	1k 1% 0.4W
3504	4822 116 52269	3k3 5% 0.5W
3505	4822 116 52251	18k 5% 0.5W
3506	4822 116 52175	100Ω 5% 0.5W
3507	4822 116 52217	270Ω 5% 0.5W
3508	4822 116 52217	270Ω 5% 0.5W
3516	4822 116 52233	10k 5% 0.5W
3517	4822 116 52233	10k 5% 0.5W
3526	4822 116 52228	680Ω 5% 0.5W
3528	4822 116 52304	82k 5% 0.5W
3530	4822 116 52233	10k 5% 0.5W
3531	4822 116 52283	4k7 5% 0.5W
3532	4822 116 52283	4k7 5% 0.5W
3533	4822 116 52283	4k7 5% 0.5W
3534	4822 116 52283	4k7 5% 0.5W
3535	4822 116 52283	4k7 5% 0.5W
3536	4822 116 52283	4k7 5% 0.5W
3537	4822 116 52217	270Ω 5% 0.5W
3538	4822 116 52217	270Ω 5% 0.5W
3539	4822 116 52217	270Ω 5% 0.5W
3540	4822 116 52258	220k 5% 0.5W
3550	4822 050 11002	1k 1% 0.4W
3554	4822 116 52233	10k 5% 0.5W
3555	4822 116 52233	10k 5% 0.5W
3556	4822 116 52233	10k 5% 0.5W
3557	4822 116 52233	10k 5% 0.5W
3558	4822 116 52256	2k2 5% 0.5W
3559	4822 116 52256	2k2 5% 0.5W
3560	4822 116 52283	4k7 5% 0.5W
3562	4822 050 11002	1k 1% 0.4W
3563	4822 116 52233	10k 5% 0.5W
3564	4822 050 11002	1k 1% 0.4W
3565	4822 050 11002	1k 1% 0.4W
3568	4822 116 52233	10k 5% 0.5W
3573	4822 050 11002	1k 1% 0.4W
3574	4822 116 52284	47k 5% 0.5W

2416	4822 122 33848	47pF 5% 50V
2417	4822 126 12702	270pF 10% 50V
2418	4822 126 12702	270pF 10% 50V
2419	4822 122 33195	100pF 10% 50V
2420	4822 122 33195	100pF 10% 50V
2421	4822 122 33848	47pF 5% 50V
2422	4822 122 33848	47pF 5% 50V
2425	4822 122 33195	100pF 10% 50V
2426	4822 122 33195	100pF 10% 50V
2427	4822 124 40242	1µF 20% 63V
2428	4822 124 40242	1µF 20% 63V
2429	4822 126 12702	270pF 10% 50V
2430	4822 126 12702	270pF 10% 50V
2431	4822 122 33197	1nF 10% 50V
2432	4822 122 33197	1nF 10% 50V
2433	4822 122 33197	1nF 10% 50V
2434	4822 122 33197	1nF 10% 50V
2435	4822 126 11714	4.7nF 20%
2436	4822 126 11714	4.7nF 20%
2437	4822 126 11714	4.7nF 20%
2438	4822 126 11714	4.7nF 20%
2439	4822 126 11585	22nF +80-20% 25V
2440	4822 126 11585	22nF +80-20% 25V
2441	4822 126 11585	22nF +80-20% 25V
2442	4822 126 11585	22nF +80-20% 25V
2443	4822 121 43526	47nF 5% 250V
2444	4822 121 43526	47nF 5% 250V
2445	4822 121 42408	220nF 5% 63V
2446	4822 121 42408	220nF 5% 63V
2447	4822 122 33848	47pF 5% 50V
2448	4822 122 33848	47pF 5% 50V
2449	4822 122 33195	100pF 10% 50V
2450	4822 122 33195	100pF 10% 50V
2451	4822 124 40246	4.7µF 20% 63V
2452	4822 124 40246	4.7µF 20% 63V
2453	4822 121 51387	10nF 20% 16V
2454	4822 121 51387	10nF 20% 16V
2455	4822 122 33192	27pF 5% 50V
2456	4822 122 33192	27pF 5% 50V
2460	4822 124 40239	0.47µF 20% 63V
2461	4822 126 11585	22nF +80-20% 25V
2462	4822 126 11585	22nF +80-20% 25V
2463	4822 126 11585	22nF +80-20% 25V
2464	4822 124 41525	100µF 20% 25V
2465	4822 124 22263	220µF 20% 25V
2466	4822 124 40248	10µF 20% 63V
2468	4822 124 40433	47µF 20% 25V
2469	4822 124 40242	1µF 20% 63V
2470	4822 124 40242	1µF 20% 63V
2471	4822 122 33519	470pF 10% 50V
2472	4822 122 33519	470pF 10% 50V
2473	4822 124 40433	47µF 20% 25V

2475	4822 124 22263	220µF 20% 25V
2476	4822 124 41525	100µF 20% 25V
2477	4822 124 40433	47µF 20% 25V
2480	4822 124 40242	1µF 20% 63V
2481	4822 124 40242	1µF 20% 63V
2482	4822 122 33195	100pF 10% 50V
2483	4822 122 33197	1nF 10% 50V
2484	4822 122 33197	1nF 10% 50V
2485	4822 122 33197	1nF 10% 50V
2502	4822 124 41525	100µF 20% 25V
2503	4822 124 41525	100µF 20% 25V
2504	5322 124 21643	22µF 20% 40V
2505	4822 126 11585	22nF +80-20% 25V
2507	4822 126 12702	270pF 10% 50V
2510	4822 122 33848	47pF 5% 50V
2512	4822 124 40242	1µF 20% 63V
2514	4822 126 12702	270pF 10% 50V
2552	4822 122 10466	220pF 10% 50V
2553	4822 122 10466	220pF 10% 50V
2554	4822 122 33197	1nF 10% 50V
2555	4822 122 33197	1nF 10% 50V
2556	4822 122 33195	100pF 10% 50V
2557	4822 122 33195	100pF 10% 50V
2558	5322 121 42386	100nF 5% 63V

3401	4822 116 52297	68k 5% 0.5W
3402	4822 116 52297	68k 5% 0.5W
3403	4822 116 52264	27k 5% 0.5W
3404	4822 116 52264	27k 5% 0.5W
3405	4822 116 52276	3k9 5% 0.5W
3406	4822 116 52276	3k9 5% 0.5W
3407	4822 116 52217	270Ω 5% 0.5W
3408	4822 116 52217	270Ω 5% 0.5W
3409	4822 116 52263	2k7 5% 0.5W
3410	4822 116 52263	2k7 5% 0.5W
3413	4822 050 11002	1k 1% 0.4W
3414	4822 050 11002	1k 1% 0.4W
3415	4822 116 52233	10k 5% 0.5W
3416	4822 116 52233	10k 5% 0.5W
3417	4822 116 52284	47k 5% 0.5W
3418	4822 116 52284	47k 5% 0.5W
3419	4822 116 52284	47k 5% 0.5W
3420	4822 116 52284	47k 5% 0.5W
3421	4822 116 52284	47k 5% 0.5W
3422	4822 116 52284	47k 5% 0.5W
3423	4822 116 52284	47k 5% 0.5W
3424	4822 116 52284	47k 5% 0.5W
3425	4822 116 52224	470Ω 5% 0.5W
3426	4822 116 52224	470Ω 5% 0.5W
3427	4822 116 52257	22k 5% 0.5W

7403	4822 209 83274	NJM4560D
7406	4822 130 40941	BC558
7407	4822 209 83274	NJM4560D
7408	4822 130 40938	BC548
7409	4822 130 41344	BC337-40
7410	4822 130 41344	BC337-40
7411	4822 130 41344	BC337-40
7412	4822 130 41344	BC337-40
7413	4822 130 40938	BC548
7415	4822 209 32448	TMP87PH20F
7418	4822 209 31508	ST24C01
7419	5322 209 10421	HEF4094BP
7420	5322 209 10421	HEF4094BP
7421	4822 130 44196	BC548C
7422	4822 214 52009	GP1U58XP
7423	4822 130 40941	BC558
7424	4822 130 41327	BC327-40
7425	5322 209 86518 ⚠	MC7805CT
7426	4822 130 40941	BC558
7427	4822 130 40938	BC548
7432	4822 130 40938	BC548
7433	4822 130 40938	BC548
7440	4822 130 40941	BC558
7441	4822 130 40941	BC558
7445	5322 130 44779	BC338-40
7446	5322 130 44779	BC338-40
7447	4822 130 44246	BC549C
7448	4822 130 44246	BC549C

ote: Only the parts mentioned in this list are normal service
oare parts.

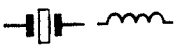
MISCELLANEOUS

	4822 403 30772	Record lever
	4822 492 70426	Record spring
	4822 466 92641	Distance socket
	4822 404 21073	Snap - printed board
1707	4822 277 20594	Slide switch

2701	4822 126 10178	820pF 10% 50V
2702	4822 122 33195	100pF 10% 50V
2703	4822 124 41643	100µF 20% 16V
2704	4822 126 11595	470pF 10% 50V
2705	4822 126 11325	4.7nF 10% 50V
2706	4822 124 40433	47µF 20% 25V
2708	4822 124 40248	10µF 20% 63V
2709	4822 121 41857	10nF 5% 250V
2711	4822 124 22633	22µF 20% 35V
2712	4822 126 11714	4.7nF 20%
2713	4822 124 40433	47µF 20% 25V
2720	4822 126 12878	1.5nF 10% 16V
2721	4822 126 12877	1.2nF 10% 50V
2722	4822 124 22466	1µF 20% 50V
2723	4822 124 22633	22µF 20% 35V
2724	4822 126 11595	470pF 10% 50V
2725	4822 124 40433	47µF 20% 25V
2726	4822 124 40433	47µF 20% 25V
2728	4822 124 40248	10µF 20% 63V
2730	4822 126 11325	4.7nF 10% 50V
2731	4822 121 41857	10nF 5% 250V
2732	4822 122 33197	1nF 10% 50V
2751	4822 126 10178	820pF 10% 50V
2753	4822 124 41643	100µF 20% 16V
2754	4822 126 11595	470pF 10% 50V
2758	4822 124 40248	10µF 20% 63V
2759	4822 121 41857	10nF 5% 250V
2762	4822 126 11714	4.7nF 20%
2770	4822 126 12878	1.5nF 10% 16V
2771	4822 126 12877	1.2nF 10% 50V
2772	4822 124 22466	1µF 20% 50V
2773	4822 124 22633	22µF 20% 35V
2774	4822 126 11595	470pF 10% 50V
2775	4822 124 40184	1000µF 20% 10V
2778	4822 124 40248	10µF 20% 63V
2781	4822 121 41857	10nF 5% 250V
2782	4822 122 33197	1nF 10% 50V
2783	4822 121 41935	12nF 5% 250V
2784	4822 124 40242	1µF 20% 63V
2785	4822 121 51305	15nF 10% 50V
2786	4822 122 33195	100pF 10% 50V
2788	4822 124 40433	47µF 20% 25V
2789	4822 124 40433	47µF 20% 25V
2790	4822 124 40433	47µF 20% 25V
2791	4822 124 40196	220µF 20% 16V

3575	4822 050 11002	1k 1% 0.4W
3576	4822 116 52271	33k 5% 0.5W
3577	4822 116 52233	10k 5% 0.5W
3578	4822 116 52233	10k 5% 0.5W
3579	4822 116 52233	10k 5% 0.5W
3580	4822 116 52233	10k 5% 0.5W
3581	4822 116 52233	10k 5% 0.5W
3582	4822 116 52233	10k 5% 0.5W
3583	4822 050 11002	1k 1% 0.4W
3585	4822 116 52249	1k8 5% 0.5W
3586	4822 116 52175	100Ω 5% 0.5W
3587	4822 116 52175	100Ω 5% 0.5W
3589	4822 050 11002	1k 1% 0.4W
3590	4822 116 52257	22k 5% 0.5W
3591	4822 050 11002	1k 1% 0.4W
3592	4822 116 52257	22k 5% 0.5W
3593	4822 050 11002	1k 1% 0.4W
3594	4822 116 52224	470Ω 5% 0.5W
3595	4822 116 52224	470Ω 5% 0.5W
3596	4822 116 52224	470Ω 5% 0.5W
3597	4822 116 52224	470Ω 5% 0.5W
3598	4822 116 52256	2k2 5% 0.5W
3601	4822 116 52224	470Ω 5% 0.5W
3602	4822 116 52224	470Ω 5% 0.5W
3603	4822 050 11002	1k 1% 0.4W
3604	4822 050 11002	1k 1% 0.4W
3605	4822 116 52217	270Ω 5% 0.5W
3606	4822 116 52217	270Ω 5% 0.5W
3607	4822 050 11002	1k 1% 0.4W
3608	4822 050 11002	1k 1% 0.4W
3609	4822 050 11002	1k 1% 0.4W
3610	4822 116 52215	220Ω 5% 0.5W
3612	4822 116 52256	2k2 5% 0.5W
3613	4822 050 11002	1k 1% 0.4W
3615	4822 116 52224	470Ω 5% 0.5W
3616	4822 116 52215	220Ω 5% 0.5W
3617	4822 116 52228	680Ω 5% 0.5W
3618	4822 116 52233	10k 5% 0.5W
3621	4822 116 52224	470Ω 5% 0.5W
3622	4822 116 52224	470Ω 5% 0.5W
3623	4822 116 52224	470Ω 5% 0.5W
3624	4822 116 52224	470Ω 5% 0.5W
3649	4822 050 22205	2M2 1% 0.6W
3650	4822 050 22205	2M2 1% 0.6W
3651	4822 116 52257	22k 5% 0.5W
3652	4822 116 52257	22k 5% 0.5W
3653	4822 116 52235	1M 5% 0.5W
3654	4822 116 52235	1M 5% 0.5W
3655	4822 116 52224	470Ω 5% 0.5W
3660	4822 116 52234	100k 5% 0.5W
3661	4822 116 52234	100k 5% 0.5W
3662	4822 116 52224	470Ω 5% 0.5W

3663	4822 116 52224	470Ω 5% 0.5W
3664	4822 116 52228	680Ω 5% 0.5W
3665	4822 116 52256	2k2 5% 0.5W
3666	4822 116 52234	100k 5% 0.5W
3667	4822 116 52234	100k 5% 0.5W
3668	4822 050 11002	1k 1% 0.4W
3670	4822 116 52304	82k 5% 0.5W
3671	4822 116 52304	82k 5% 0.5W



5401	5322 242 73697	Ceramic Resonator 8MHz
5402	4822 157 50961	Coil 22µH 10%
5405	4822 157 62552	Coil 2.2µH 20%

6401	4822 130 30621	1N4148
6402	4822 130 30621	1N4148
6403	4822 130 30621	1N4148
6404	4822 130 30621	1N4148
6405	4822 130 30621	1N4148
6406	4822 130 30621	1N4148
6407	4822 130 30621	1N4148
6408	4822 130 30621	1N4148
6409	4822 130 30621	1N4148
6410	4822 130 30621	1N4148
6411	4822 130 30621	1N4148
6412	4822 130 30621	1N4148
6413	4822 130 30621	1N4148
6414	4822 130 30621	1N4148
6415	4822 130 30621	1N4148
6416	4822 130 30621	1N4148
6418	4822 130 30621	1N4148
6419	4822 130 30621	1N4148
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6421	4822 130 30621	1N4148
6422	4822 130 30621	1N4148
6423	4822 130 30621	1N4148
6424	4822 130 30621	1N4148
6425	4822 130 30621	1N4148
6427	4822 130 34174	BZX79-F4V7
6428	4822 130 34197	BZX79-C12
6432	4822 130 30861	BZX79-C7V5
6442	4822 130 82021	LTL307G
6450	4822 130 30861	BZX79-C7V5
6453	4822 130 30621	1N4148

7707	5322 130 44779	BC338-40
7708	4822 130 44197	BC558B
7709	4822 130 40937	BC548B
7712	4822 130 44196	TBC548C
7713	4822 130 44197	BC558B
7753	4822 130 40937	BC548B
7756	5322 130 44779	BC338-40
7757	5322 130 44779	BC338-40

Note: Only the parts mentioned in this list are normal service spare parts.

POWER BOARD

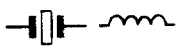
MISCELLANEOUS

	4822 255 40128	Clip, Tr 7252
	5322 255 40397	Clip, IC
1304	4822 267 31176	Speaker Socket
1305	4822 264 30175	Socket External Supply

2250	5322 121 42578	100nF 5% 250V
2251	5322 121 42386	100nF 5% 63V
2252	5322 121 42386	100nF 5% 63V
2253	4822 124 42119	4700µF 20% 25V for 15W version
2253	4822 124 41995	6800µF 25V for 20W version
2254	4822 124 40242	1µF 20% 63V
2255	4822 122 33197	1nF 10% 50V
2256	4822 126 11585	22nF +80-20% 25V
2257	5322 121 42578	100nF 5% 250V
2258	5322 121 42386	100nF 5% 63V
2259	5322 121 42386	100nF 5% 63V
2260	4822 124 22412	2200µF 20% 16V
2261	4822 124 40201	1000µF 20% 16V
2262	4822 124 41525	100µF 20% 25V
2265	4822 124 41994	3300µF 16V
2266	4822 122 33197	1nF 10% 50V for /21/22/30
2267	4822 122 33197	1nF 10% 50V for /21/22/30
2311	4822 124 40242	1µF 20% 63V
2312	4822 124 40242	1µF 20% 63V
2315	5322 121 42489	33nF 5% 250V
2316	5322 121 42489	33nF 5% 250V
2317	4822 124 40248	10µF 20% 63V
2318	4822 124 40248	10µF 20% 63V
2319	4822 124 40433	47µF 20% 25V
2320	4822 124 40433	47µF 20% 25V
2321	4822 122 33169	680pF 10% 50V for /21/22/30
2322	4822 122 33169	680pF 10% 50V for /21/22/30
2323	4822 126 12878	1.5nF 10% 16V
2324	4822 126 12878	1.5nF 10% 16V
2325	4822 124 41525	100µF 20% 25V
2326	4822 124 41525	100µF 20% 25V
2329	5322 124 41431	22µF 20% 35V
2330	5322 124 41431	22µF 20% 35V
2333	4822 124 40433	47µF 20% 25V
2334	4822 124 40433	47µF 20% 25V
2335	4822 124 40433	47µF 20% 25V
2336	4822 124 40433	47µF 20% 25V
2337	4822 121 42408	220nF 5% 63V
2338	4822 121 42408	220nF 5% 63V

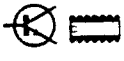
3701	4822 116 52224	470Ω 5% 0.5W
3702	4822 116 52224	470Ω 5% 0.5W
3703	4822 116 52224	470Ω 5% 0.5W
3704	4822 116 52258	220k 5% 0.5W
3705	4822 116 52188	27Ω 5% 0.5W
3706	4822 116 52175	100Ω 5% 0.5W
3709	4822 116 52175	100Ω 5% 0.5W
3710	4822 116 52289	5k6 5% 0.5W
3711	4822 116 52234	100k 5% 0.5W
3712	4822 116 52251	18k 5% 0.5W
3713	4822 116 52296	6k8 5% 0.5W
3715	4822 116 52257	22k 5% 0.5W
3716	4822 050 11002	1k 1% 0.4W
3717	4822 116 52256	2k2 5% 0.5W
3718	4822 116 52224	470Ω 5% 0.5W
3719	4822 116 52257	22k 5% 0.5W
3720	4822 116 52224	470Ω 5% 0.5W
3721	4822 116 52224	470Ω 5% 0.5W
3722	4822 116 52224	470Ω 5% 0.5W
3723	4822 116 52224	470Ω 5% 0.5W
3724	4822 116 52258	220k 5% 0.5W
3725	4822 116 52175	100Ω 5% 0.5W
3727	4822 116 81682	2M2 5% 0.5W
3730	4822 050 11002	1k 1% 0.4W
3731	4822 116 52207	1k2 5% 0.5W
3732	4822 116 52233	10k 5% 0.5W
3733	4822 116 52207	1k2 5% 0.5W
3734	4822 116 52233	10k 5% 0.5W
3735	4822 116 52238	12k 5% 0.5W
3736	4822 116 52264	27k 5% 0.5W
3737	4822 116 52224	470Ω 5% 0.5W
3738	4822 116 52257	22k 5% 0.5W
3739	4822 116 52224	470Ω 5% 0.5W
3741	4822 050 11002	1k 1% 0.4W
3742	4822 050 11002	1k 1% 0.4W
3743	4822 116 52257	22k 5% 0.5W
3744	4822 116 52258	220k 5% 0.5W
3745	4822 116 52234	100k 5% 0.5W
3746	4822 116 52224	470Ω 5% 0.5W
3747	4822 116 52234	100k 5% 0.5W
3749	4822 116 52283	4k7 5% 0.5W
3751	4822 116 52224	470Ω 5% 0.5W
3752	4822 116 52224	470Ω 5% 0.5W
3753	4822 116 52224	470Ω 5% 0.5W
3754	4822 116 52258	220k 5% 0.5W
3755	4822 116 52188	27Ω 5% 0.5W
3756	4822 050 11002	1k 1% 0.4W
3760	4822 116 52289	5k6 5% 0.5W
3761	4822 116 52234	100k 5% 0.5W
3763	4822 116 52296	6k8 5% 0.5W
3765	4822 116 52257	22k 5% 0.5W
3766	4822 050 11002	1k 1% 0.4W

3767	4822 116 52256	2k2 5% 0.5W
3768	4822 116 52224	470Ω 5% 0.5W
3769	4822 116 52257	22k 5% 0.5W
3770	4822 116 52224	470Ω 5% 0.5W
3771	4822 116 52224	470Ω 5% 0.5W
3772	4822 116 52224	470Ω 5% 0.5W
3773	4822 116 52224	470Ω 5% 0.5W
3774	4822 116 52258	220k 5% 0.5W
3775	4822 116 52175	100Ω 5% 0.5W
3778	4822 052 10189 △	18Ω 5% 0.33W
3779	4822 116 52298	680k 5% 0.5W
3780	4822 050 11002	1k 1% 0.4W
3781	4822 116 52207	1k2 5% 0.5W
3782	4822 050 11002	1k 1% 0.4W
3783	4822 116 52258	220k 5% 0.5W
3785	4822 116 52238	12k 5% 0.5W
3786	4822 116 52264	27k 5% 0.5W
3788	4822 116 52257	22k 5% 0.5W
3789	4822 116 52224	470Ω 5% 0.5W
3791	4822 050 11002	1k 1% 0.4W
3792	4822 050 11002	1k 1% 0.4W
3796	4822 116 52257	22k 5% 0.5W
3797	4822 050 11002	1k 1% 0.4W
3798	4822 116 52231	820Ω 5% 0.5W
3799	4822 116 52234	100k 5% 0.5W



5701	4822 157 51238	Inductor 820µH
5702	4822 157 51238	Inductor 820µH

6701	4822 130 30621	1N4148
6702	4822 130 30621	1N4148
6704	4822 130 30621	1N4148
6705	4822 130 30621	1N4148
6706	4822 130 30621	1N4148
6707	4822 130 30621	1N4148
6710	4822 130 30621	1N4148
6712	4822 130 30621	1N4148

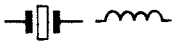


7701	4822 209 72491	KA2224
7702	4822 209 70288	UPC1313HA
7703	4822 130 40937	BC548B
7704	4822 130 40937	BC548B
7705	4822 130 40937	BC548B
7706	5322 130 44779	BC338-40

:AFO BOARD

MISCELLANEOUS

1250	4822 071 55002	⚠	Fuse T5A 250V
1251	4822 071 56301	⚠	Fuse T630mA 250V
1252	4822 071 56301	⚠	Fuse T630mA 250V
1255	4822 265 31015	⚠	Mains Socket
1260	4822 272 10269	⚠	Voltage Selector for /21/30



5250	4822 146 31244	⚠	Mains Transformer for /20/22/25
5250	4822 146 31246	⚠	Mains Transformer for /21/30
5251	4822 157 70003	⚠	Mains Choke Coil

te: Only the parts mentioned in this list are normal service are parts.

ECO4 MIDI BOARD

MISCELLANEOUS

1101	4822 267 10283	Socket Coaxial IEC 75Ω

2100	4822 122 33195	100pF 10% 50V
2104	4822 122 33195	100pF 10% 50V
2107	4822 122 31746	1nF 2% 63V
2110	5322 122 32659	33pF 5% 50V for LW version
2110	5322 122 32269	6.8pF 5% 50V for 2-band version
2112	4822 122 33496	100nF 10% 63V
2114	5322 122 32531	100pF 5% 50V for LW version
2115	4822 125 60101	Trimmer 3-11pF 100V
2120	5322 122 32268	470pF 10% 50V
2121	5322 122 32481	15pF 5% 50V
2122	4822 122 31746	1nF 2% 63V
2123	4822 122 31746	1nF 2% 63V
2124	4822 121 51387	10nF 20% 16V
2129	4822 121 43705	390pF 1% 160V for LW version
2130	4822 125 50355	Trimmer 4.2-20pF
2133	4822 122 33128	15nF 10% 63V for LW version
2134	4822 122 33197	1nF 10% 50V
2135	4822 121 70245	560pF 1% 160V
2138	5322 122 32659	33pF 5% 50V for 2-band version
2139	4822 122 33891	3.3nF 10% 63V for LW version
2141	4822 124 40244	2.2µF 20% 63V
2142	4822 124 40242	1µF 20% 63V
2143	4822 122 33325	470nF 16V
2144	4822 122 33325	470nF 16V
2145	4822 122 33496	100nF 10% 63V for LW version
2146	5322 122 33063	2.2pF 5% 50V for LW version
2147	4822 122 33177	10nF 20% 50V
2150	4822 124 40248	10µF 20% 63V
2151	4822 124 40248	10µF 20% 63V
2152	4822 122 33496	100nF 10% 63V
2154	4822 122 33177	10nF 20% 50V
2155	4822 122 33177	10nF 20% 50V
2156	5322 126 10181	100nF 25V
2157	5322 126 10181	100nF 25V
2158	4822 122 31768	180pF 2% 63V
2159	4822 122 31768	180pF 2% 63V
2160	4822 124 40242	1µF 20% 63V
2161	4822 124 40242	1µF 20% 63V
2162	4822 124 40242	1µF 20% 63V

2339	4822 121 42408	220nF 5% 63V
2340	4822 121 42408	220nF 5% 63V
2350	4822 124 41525	100µF 20% 25V
2351	5322 121 42386	100nF 5% 63V
2352	5322 121 42386	100nF 5% 63V
2353	5322 121 42386	100nF 5% 63V
2354	4822 124 40242	1µF 20% 63V
2355	4822 126 12519	330pF 10%
2356	4822 126 12519	330pF 10%
2361	4822 121 51387	10nF 20% 16V
2362	4822 121 51387	10nF 20% 16V

3250	4822 050 11002	1k 1% 0.4W
3251	4822 116 52233	10k 5% 0.5W
3252	4822 116 52233	10k 5% 0.5W
3254	4822 116 52271	33k 5% 0.5W
3255	4822 116 52228	680Ω 5% 0.5W
3256	4822 116 52228	680Ω 5% 0.5W
3257	4822 116 52233	10k 5% 0.5W
3258	4822 116 52283	4k7 5% 0.5W
3259	4822 116 52271	33k 5% 0.5W
3260	4822 116 52233	10k 5% 0.5W
3261	4822 116 52291	56k 5% 0.5W
3262	4822 050 11002	1k 1% 0.4W
3263	4822 116 52283	4k7 5% 0.5W
3264	4822 116 52217	270Ω 5% 0.5W for /21/22/30
3307	4822 116 52256	2k2 5% 0.5W
3308	4822 116 52256	2k2 5% 0.5W
3309	4822 050 11002	1k 1% 0.4W
3310	4822 050 11002	1k 1% 0.4W
3311	4822 050 11002	1k 1% 0.4W
3312	4822 050 11002	1k 1% 0.4W
3313	4822 116 52256	2k2 5% 0.5W
3314	4822 116 52256	2k2 5% 0.5W
3315	4822 116 52233	10k 5% 0.5W
3316	4822 116 52233	10k 5% 0.5W
3317	4822 116 52215	220Ω 5% 0.5W for 15W version
3317	4822 116 52213	180Ω 5% 0.5W for 20W version
3318	4822 116 52215	220Ω 5% 0.5W for 15W version
3318	4822 116 52213	180Ω 5% 0.5W for 20W version
3319	4822 052 10228 △	2Ω2 5% 0.33W
3320	4822 052 10228 △	2Ω2 5% 0.33W
3321	4822 052 10228 △	2Ω2 5% 0.33W
3322	4822 052 10228 △	2Ω2 5% 0.33W
3323	4822 116 52175	100Ω 5% 0.5W for /21/22/30
3324	4822 116 52175	100Ω 5% 0.5W for /21/22/30
3325	4822 116 52175	100Ω 5% 0.5W for /21/22/30
3326	4822 116 52175	100Ω 5% 0.5W for /21/22/30
3350	4822 052 10479 △	47Ω 5% 0.33W
3354	4822 116 52234	100k 5% 0.5W
3355	4822 116 52217	270Ω 5% 0.5W

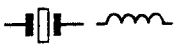
5309	4822 157 62552	Coil 2.2µH 20% for /21/22/30
5311	4822 157 62552	Coil 2.2µH 20% for /21/22/30
5312	4822 157 62552	Coil 2.2µH 20% for /21/22/30
5315	4822 157 62552	Coil 2.2µH 20% for /21/22/30
5316	4822 157 62552	Coil 2.2µH 20% for /21/22/30

6250	4822 130 82079 △	D3SBA20
6251	4822 130 30621	1N4148
6252	4822 130 30621	1N4148
6253	4822 130 34174	BZX79-F4V7
6254	4822 130 30621	1N4148
6255	5322 130 30684 △	1N4002
6256	5322 130 30684 △	1N4002
6257	5322 130 30684 △	1N4002
6258	5322 130 30684 △	1N4002
6259	4822 130 30621	1N4148
6261	5322 130 30684 △	1N4002
6350	4822 130 30621	1N4148
6351	4822 130 30621	1N4148
6354	4822 130 30621	1N4148

7250	4822 130 40937	BC548B
7252	4822 130 40917 △	BD238
7253	4822 130 40937	BC548B
7254	4822 130 40937	BC548B
7255	4822 130 44197	BC558B
7309	4822 130 41344	BC337-40
7310	4822 130 41344	BC337-40
7311	4822 130 41344	BC337-40
7312	4822 130 41344	BC337-40
7313	4822 209 73356 △	ANF161N(FP)
7314	4822 209 73356 △	ANF161N(FP)
7352	4822 130 40937	BC548B

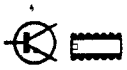
Note: Only the parts mentioned in this list are normal servi
spare parts.

3224	4822 051 20008	0Ω Jumper 0805
3226	4822 051 20008	0Ω Jumper 0805 for 2-band version
3228	4822 051 10008	0Ω 5% 0.25W
3229	4822 051 20008	0Ω Jumper 0805 for 2-band version
3233	4822 051 20008	0Ω Jumper 0805
3235	4822 051 10008	0Ω Jumper 1206
3237	4822 051 10008	0Ω 5% 0.25W
3238	4822 051 20008	0Ω Jumper 0805 for LW version
3240	4822 051 10008	0Ω 5% 0.25W
3241	4822 051 20008	0Ω Jumper 0805 for 2-band version
3242	4822 051 10008	0Ω 5% 0.25W
3243	4822 051 20008	0Ω Jumper 0805 for 2-band version
3244	4822 051 20008	0Ω Jumper 0805
3245	4822 051 20008	0Ω Jumper 0805 for 2-band version
3246	4822 051 10008	0Ω 5% 0.25W
3247	4822 051 10008	0Ω 5% 0.25W
3248	4822 051 20008	0Ω Jumper 0805
3249	4822 051 20153	15k 5% 0.1W for LW version
3249	4822 051 20821	820Ω 5% 0.1W for 2-band version



5105	4822 158 60641	MW-LW Antenna for LW version
5106	4822 158 60642	MW Antenna for 2-band version
5109	4822 156 30947	RF Coil 1.5T
5120	4822 156 30947	RF Coil 1.5T
5122	4822 157 60517	Coil 110µH 8% for LW version
5123	4822 157 60517	Coil 110µH 8%
5125	4822 157 61898	Coil 0.47µH 20%
5140	4822 158 60511	AM IF Coil 450kHz
5142	4822 157 70302	AM IF Coil 450kHz
5143	4822 242 70665	Ceramic Filter 10.7MHz
5144	4822 242 70665	Ceramic Filter 10.7MHz
5145	4822 242 81362	Ceramic Discriminator
5150	4822 157 50975	Coil 1mH 10%
5170	4822 242 72976	Ceramic Resonator 7.2MHz

6105	4822 130 83075	HN1V02H
6109	4822 130 82833	1SV228
6121	4822 130 30621	1N4148)
6122	4822 130 30621	1N4148) Refer to circuit
6123	4822 130 30621	1N4148)
6124	4822 130 82833	1SV228
6140	4822 130 30621	1N4148
6154	4822 130 30621	1N4148
6174	4822 130 34233	BZX79-B5V1



7102	5322 130 42136	BC848C for LW version
7104	5322 130 42136	BC848C for LW version
7105	4822 130 60093	2SA838B
7120	4822 130 60163	2SC1047
7121	5322 130 42136	BC848C for LW version
7123	5322 130 42136	BC848C for LW version
7128	5322 130 42136	BC848C for LW version
7140	4822 209 32701	TEA5712T/N2
7150	5322 209 14482	HEF4069UBT Inverter
7152	5322 130 41983	BC858B for LW version
7156	4822 130 41344	BC337-40
7157	4822 130 41344	BC337-40
7169	5322 130 42136	BC848C
7170	5322 130 42136	BC848C
7171	5322 130 42136	BC848C
7172	5322 209 11517	MM74HCU04M Inverter
7173	4822 209 31998	LC7218M Synthesizer
7174	5322 130 41983	BC858B
7178	5322 130 41983	BC858B
7179	5322 130 42136	BC848C for LW version

NOTE : Only the parts mentioned in this list are normal service spare parts.

2168	4822 122 33481	1.8nF 2% 63V
2169	5322 122 31863	330pF 5% 50V
2170	5322 126 10223	4.7nF 10% 63V
2171	5322 126 10223	4.7nF 10% 63V
2172	4822 124 41631	1.5µF 50V
2173	4822 124 40433	47µF 20% 25V
2174	5322 116 80853	560pF 5% 63V
2175	5322 122 32531	100pF 5% 50V
2177	5322 126 10181	100nF 25V for LW version
2178	4822 122 33197	1nF 10% 50V
2179	4822 122 33195	100pF 10% 50V
2180	5322 122 31946	27pF 5% 63V
2181	4822 122 32139	12pF 2% 63V
2183	4822 122 33496	100nF 10% 63V
2184	4822 124 41584	100µF 20% 10V
2185	4822 122 33496	100nF 10% 63V
2186	4822 122 31746	1nF 2% 63V
2193	4822 122 33496	100nF 10% 63V

3106	4822 051 20104	100k 5% 0.1W
3107	4822 051 20222	2k2 5% 0.1W for LW version
3108	4822 051 20104	100k 5% 0.1W
3109	4822 051 20222	2k2 5% 0.1W for LW version
3110	4822 051 20473	47k 5% 0.1W for LW version
3111	4822 051 20153	15k 5% 0.1W
3112	4822 051 20223	22k 5% 0.1W
3116	4822 051 20335	3M3 5% 0.1W for LW version
3119	4822 116 52224	470Ω 5% 0.5W
3120	4822 116 52289	5k6 5% 0.5W
3121	4822 051 20104	100k 5% 0.1W
3122	4822 051 20471	470Ω 5% 0.1W
3123	4822 051 20223	22k 5% 0.1W
3124	4822 116 52256	2k2 5% 0.5W for LW version
3125	4822 051 20472	4k7 5% 0.1W for LW version
3128	4822 117 10833	10k 1% 0.1W
3129	4822 051 20472	4k7 5% 0.1W for LW version
3132	4822 116 52283	4k7 5% 0.5W
3141	4822 116 52215	220Ω 5% 0.5W
3142	4822 051 20222	2k2 5% 0.1W
3144	4822 051 20473	47k 5% 0.1W
3147	4822 051 20184	180k 5% 0.1W
3148	4822 100 11163	Trimmer 100k 30% 0.2W
3149	4822 051 20563	56k 5% 0.1W

3151	4822 116 52243	1k5 5% 0.5W
3154	4822 051 20333	33k 5% 0.1W
3155	4822 051 20333	33k 5% 0.1W
3156	4822 116 52233	10k 5% 0.5W
3157	4822 051 20273	27k 5% 0.1W
3158	4822 051 20189	18Ω 5% 0.1W for LW version
3159	4822 051 20184	180k 5% 0.1W
3160	4822 051 20823	82k 5% 0.1W
3161	4822 051 20823	82k 5% 0.1W
3162	4822 050 11002	1k 1% 0.4W
3163	4822 050 11002	1k 1% 0.4W
3164	4822 116 52283	4k7 5% 0.5W
3165	4822 116 52283	4k7 5% 0.5W
3166	4822 051 20101	100Ω 5% 0.1W
3167	4822 051 20008	0Ω Jumper 0805
3170	4822 116 52283	4k7 5% 0.5W
3171	4822 051 20101	100Ω 5% 0.1W
3172	4822 051 20472	4k7 5% 0.1W
3173	4822 116 52244	15k 5% 0.5W
3174	4822 116 52233	10k 5% 0.5W
3175	4822 051 20104	100k 5% 0.1W
3176	4822 051 20104	100k 5% 0.1W
3177	4822 116 52233	10k 5% 0.5W for LW version
3178	4822 051 20332	3k3 5% 0.1W
3179	4822 051 20104	100k 5% 0.1W
3180	4822 051 20333	33k 5% 0.1W
3181	4822 116 52234	100k 5% 0.5W
3183	4822 051 20223	22k 5% 0.1W
3184	4822 051 20223	22k 5% 0.1W
3185	4822 051 20472	4k7 5% 0.1W
3186	4822 051 20183	18k 5% 0.1W
3188	4822 051 10102	1k 2% 0.25W
3189	4822 116 52249	1k8 5% 0.5W
3190	4822 116 52249	1k8 5% 0.5W
3191	4822 116 52249	1k8 5% 0.5W
3192	4822 116 52249	1k8 5% 0.5W
3193	4822 116 52256	2k2 5% 0.5W
3194	4822 050 24701	470Ω 1% 0.6W
3195	4822 050 24701	470Ω 1% 0.6W
3197	4822 050 24701	470Ω 1% 0.6W
3200	4822 051 20223	22k 5% 0.1W
3201	4822 116 52176	10Ω 5% 0.5W
3211	4822 051 10008	0Ω 5% 0.25W
3212	4822 051 10008	0Ω 5% 0.25W
3213	4822 051 10008	0Ω 5% 0.25W
3220	4822 051 20008	0Ω Jumper 0805
3222	4822 051 20008	0Ω Jumper 0805 for 2-band version
3223	4822 051 20008	0Ω Jumper 0805 for LW version

TUNER 92 BOARD

MISCELLANEOUS

1101	4822 210 10492	Tuner Unit FE415-G11
1110	4822 267 10283	FM Antenna Socket

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2101	5322 122 34099	470pF 10% 63V
2102	5322 122 32268	470pF 10% 50V
2103	4822 124 40433	47µF 20% 25V
2104	4822 121 42408	220nF 5% 63V
2105	5322 122 32654	22nF 10% 63V
2108	5322 122 32654	22nF 10% 63V
2109	5322 122 32654	22nF 10% 63V
2110	5322 122 32654	22nF 10% 63V
2112	5322 122 32654	22nF 10% 63V
2113	5322 122 32661	56pF 5% 50V
2114	5322 124 41431	22µF 20% 35V
2115	4822 124 40239	0.47µF 20% 63V
2116	5322 121 42386	100nF 5% 63V
2117	4822 122 33902	12nF 10% 63V
2118	4822 122 33902	12nF 10% 63V
2119	4822 124 40244	2.2µF 20% 63V
2120	4822 124 40244	2.2µF 20% 63V
2121	4822 124 40196	220µF 20% 16V
2123	4822 124 40246	4.7µF 20% 63V
2124	4822 124 40246	4.7µF 20% 63V
2125	4822 122 33177	10nF 20% 50V
2126	4822 122 31782	15nF 10% 50V
2127	5322 122 31863	330pF
2128	5322 116 80853	560pF
2129	4822 124 40242	1µF 20% 63V
2131	4822 124 40248	10µF 20% 63V
2141	Not applicable	
2142	4822 125 60102	Trimmer 30pF
2144	4822 121 42408	220nF 5% 63V
2145	4822 121 51263	510pF 1% 400V
2146	4822 121 70082	430pF 1% 400V
2147	5322 122 32654	22nF 10% 63V
2148	5322 122 32452	47pF 5% 63V
2149	4822 122 33177	10nF 20% 50V
2150	5322 122 32654	22nF 10% 63V
2151	5322 122 34099	470pF 10% 63V
2152	4822 124 40242	1µF 20% 63V
2153	5322 122 34099	470pF 10% 63V
2154	5322 122 32481	15pF 5% 50V
2155	5322 122 32965	18pF 5% 50V
2156	4822 124 40433	47µF 20% 25V
2158	5322 126 10223	4.7nF 10% 63V
2159	5322 126 10223	4.7nF 10% 63V
2160	4822 124 41631	1.5µF 50V
2161	4822 122 32927	220nF +80-20% 50V
2162	4822 122 10166	22nF 30% 16V
2165	4822 124 40433	47µF 20% 25V

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2188	5322 122 32654	22nF 10% 63V
2193	4822 125 60102	Trimmer 5.2-30pF
2194	4822 125 60101	Trimmer 3-11pF
2195	5322 122 33861	120pF 5%
2196	5322 122 32448	10pF 5% 50V
2197	Not applicable	
2210	4822 124 41643	100µF 20% 16V
2215	5322 122 32268	470pF 10% 50V
2216	5322 122 32268	470pF 10% 50V
2221	5322 122 32268	470pF 10% 50V
2222	Not applicable	
2223	Not applicable	
2224	4822 122 31173	220pF 10% 500V
2225	4822 122 31173	220pF 10% 500V

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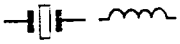
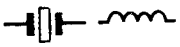
3101	4822 052 10478 △	4Ω7 5% 0.33W
3102	4822 051 20224	220k 5% 0.1W
3103	Not applicable	
3104	4822 051 20154	150k 5% 0.1W
3105	4822 051 20562	5k6 5% 0.1W
3106	4822 051 20829	82Ω 5% 0.1W
3107	4822 051 20008	0Ω Jumper
3113	4822 050 22201 △	220Ω 1% 1/6W
3114	4822 051 20332	3k3 5% 0.1W
3115	4822 051 20391	390Ω 5% 0.1W
3116	4822 051 20478	4Ω7 5% 0.1W
3117	4822 051 20331	330Ω 5% 0.1W
3118	4822 116 52215 △	220Ω 5% 0.5W
3120	4822 052 10229 △	22Ω 5%
3121	4822 051 20272	2k7 5% 0.1W
3122	4822 051 20562	5k6 5% 0.1W
3123	4822 051 20223	22k 5% 0.1W
3124	4822 051 20103	10k 5% 0.1W
3125	4822 100 11213	Trimmer 22k 30%
3126	4822 051 20123	12k 5% 0.1W
3127	4822 051 20562	5k6 5% 0.1W
3128	4822 051 20562	5k6 5% 0.1W
3129	4822 051 20822	8k2 5% 0.1W
3131	4822 100 11319	Trimmer 4k7
3132	4822 051 20183	18k 5% 0.1W
3133	4822 051 20008	0Ω Jumper 0805
3134	4822 050 15602	5k6 1% 0.4W
3135	4822 051 10008	0Ω 5% 0.25W
3138	4822 116 83922 △	150Ω 5% 1W
3139	4822 051 20008	0Ω Jumper
3141	4822 051 20472	4k7 5% 0.1W
3142	4822 051 20472	4k7 5% 0.1W
3143	4822 051 20821	820Ω 5% 0.1W
3144	4822 051 20331	330Ω 5% 0.1W
3145	4822 051 20271	270Ω 5% 0.1W

3147	4822 050 15602	5k6 1% 0.4W
3148	4822 051 20104	100k 5% 0.1W
3149	4822 051 20472	4k7 5% 0.1W
3150	4822 050 25601	560Ω 1% 0.6W
3151	4822 050 24702	4k7 1% 0.6W
3152	4822 051 20103	10k 5% 0.1W
3153	4822 051 20274	270k 5% 0.1W
3155	4822 050 22201 ⚠	220Ω 1% 0.6W
3156	4822 051 20153	15k 5% 0.1W
3157	4822 051 20472	4k7 5% 0.1W
3158	4822 050 24702	4k7 1% 0.6W
3159	4822 051 20104	100k 5% 0.1W
3160	4822 051 20104	100k 5% 0.1W
3162	4822 050 22701 ⚠	270Ω 1%
3163	4822 051 20103	10k 5% 0.1W
3164	4822 051 10473	47k 2% 0.25W
3165	4822 050 21002	1k 1% 0.6W
3166	4822 050 21002	1k 1% 0.6W
3167	4822 050 21002	1k 1% 0.6W
3168	4822 051 20008	0Ω Jumper 0805
3170	4822 051 20103	10k 5% 0.1W
3171	4822 051 20223	22k 5% 0.1W
3172	4822 051 20472	4k7 5% 0.1W
3173	4822 051 20223	22k 5% 0.1W
3183	4822 050 21003	10k 1% 0.6W
3184	4822 051 20332	3k3 5% 0.1W
3185	4822 051 20103	10k 5% 0.1W
3186	4822 050 21003	10k 1% 0.6W
3187	4822 051 20103	10k 5% 0.1W
3190	4822 051 20479	47Ω 5% 0.1W
3194	4822 051 20472	4k7 5% 0.1W
3196	4822 051 20008	0Ω Jumper 0805
3197	4822 051 20008	0Ω Jumper 0805
3198	4822 051 20103	10k 5% 0.1W
3200	4822 051 20008	0Ω Jumper 0805
3201	4822 051 20472	4k7 5% 0.1W
3202	4822 051 20008	0Ω Jumper 0805
3223	4822 051 20474	470k 5% 0.1W
3225	4822 050 21002	1k 1% 0.6W
3230	4822 051 20223	22k 5% 0.1W
3231	4822 051 20223	22k 5% 0.1W
3233	4822 051 10102	1k 2% 0.25W
3236	4822 051 20008	0Ω Jumper 0805
3239	4822 051 20274	270k 5% 0.1W
3240	4822 051 20472	4k7 5% 0.1W



5103	4822 242 81249	Ceramic Filter 10.7MHz
5104	4822 157 63029	AM IFT Coil
5105	4822 157 63904	FM Detector Coil
5106	4822 157 71044	Birdy Coil



5108	4822 157 63912	AM Osc Coil
5110	4822 242 71878	Ceramic Filter 450kHz
5111	4822 242 81248	Ceramic Resonator 19kHz
5112	4822 242 72976	X'tal Resonator 7.2MHz
5113	4822 242 81249	Ceramic Filter 10.7MHz
5114	4822 157 51503	Inductor 560µH
5127	4822 158 60643	Ferroceptor

6101	4822 130 34174	BZX79-C4V7
6102	4822 130 83075	HN1V02H
6109	4822 130 30621	1N4148
6110	4822 130 30621	1N4148
6121	4822 130 30621	1N4148 Refer circuit
6122	4822 130 30621	1N4148 Refer circuit
6123	4822 130 30621	1N4148 Refer circuit

7103	4822 209 31001	LA1851N
7104	5322 130 60068	BC558C
7105	4822 209 30178	LC7218
7106	4822 130 41327	BC327-40
7107	5322 130 41982	BC848B
7108	4822 130 44196	BC548C
7109	4822 130 44196	BC548C
7111	5322 130 41982	BC848B
7112	4822 130 60163	2SC1047
7113	4822 130 44196	BC548C
7114	4822 130 40937	BC548B
7115	4822 130 41024	BF245B
7116	4822 130 60163	2SC1047
7119	5322 130 41983	BC858B
7120	4822 130 44196	BC548C
7125	4822 130 44197	BC558B
7150	5322 130 44779	BC338-40
7151	4822 130 60163	2SC1047
7157	5322 130 44779	BC338-40

Note: Only the parts mentioned in this list are normal service spare parts.

3147	4822 050 15602	5k6 1% 0.4W
3148	4822 051 20104	100k 5% 0.1W
3149	4822 051 20472	4k7 5% 0.1W
3150	4822 050 25601	560Ω 1% 0.6W
3151	4822 050 24702	4k7 1% 0.6W
3152	4822 051 20103	10k 5% 0.1W
3153	4822 051 20274	270k 5% 0.1W
3155	4822 050 22201 ⚠	220Ω 1% 0.6W
3156	4822 051 20153	15k 5% 0.1W
3157	4822 051 20472	4k7 5% 0.1W
3158	4822 050 24702	4k7 1% 0.6W
3159	4822 051 20104	100k 5% 0.1W
3160	4822 051 20104	100k 5% 0.1W
3162	4822 050 22701 ⚠	270Ω 1%
3163	4822 051 20103	10k 5% 0.1W
3164	4822 051 10473	47k 2% 0.25W
3165	4822 050 21002	1k 1% 0.6W
3166	4822 050 21002	1k 1% 0.6W
3167	4822 050 21002	1k 1% 0.6W
3168	4822 051 20008	0Ω Jumper 0805
3170	4822 051 20103	10k 5% 0.1W
3171	4822 051 20223	22k 5% 0.1W
3172	4822 051 20472	4k7 5% 0.1W
3173	4822 051 20223	22k 5% 0.1W
3183	4822 050 21003	10k 1% 0.6W
3184	4822 051 20332	3k3 5% 0.1W
3185	4822 051 20103	10k 5% 0.1W
3186	4822 050 21003	10k 1% 0.6W
3187	4822 051 20103	10k 5% 0.1W
3190	4822 051 20479	47Ω 5% 0.1W
3194	4822 051 20472	4k7 5% 0.1W
3196	4822 051 20008	0Ω Jumper 0805
3197	4822 051 20008	0Ω Jumper 0805
3198	4822 051 20103	10k 5% 0.1W
3200	4822 051 20008	0Ω Jumper 0805
3201	4822 051 20472	4k7 5% 0.1W
3202	4822 051 20008	0Ω Jumper 0805
3223	4822 051 20474	470k 5% 0.1W
3225	4822 050 21002	1k 1% 0.6W
3230	4822 051 20223	22k 5% 0.1W
3231	4822 051 20223	22k 5% 0.1W
3233	4822 051 10102	1k 2% 0.25W
3236	4822 051 20008	0Ω Jumper 0805
3239	4822 051 20274	270k 5% 0.1W
3240	4822 051 20472	4k7 5% 0.1W

5103	4822 242 81249	Ceramic Filter 10.7MHz
5104	4822 157 63029	AM IFT Coil
5105	4822 157 63904	FM Detector Coil
5106	4822 157 71044	Birdy Coil
5108	4822 157 63912	AM Osc Coil
5110	4822 242 71878	Ceramic Filter 450kHz
5111	4822 242 81248	Ceramic Resonator 19kHz
5112	4822 242 72976	X'tal Resonator 7.2MHz
5113	4822 242 81249	Ceramic Filter 10.7MHz
5114	4822 157 51503	Inductor 560µH
5127	4822 158 60643	Ferroceptor

6101	4822 130 34174	BZX79-C4V7
6102	4822 130 83075	HN1V02H
6109	4822 130 30621	1N4148
6110	4822 130 30621	1N4148
6121	4822 130 30621	1N4148 Refer circuit
6122	4822 130 30621	1N4148 Refer circuit
6123	4822 130 30621	1N4148 Refer circuit

7103	4822 209 31001	LA1851N
7104	5322 130 60068	BC558C
7105	4822 209 30178	LC7218
7106	4822 130 41327	BC327-40
7107	5322 130 41982	BC848B
7108	4822 130 44196	BC548C
7109	4822 130 44196	BC548C
7111	5322 130 41982	BC848B
7112	4822 130 60163	2SC1047
7113	4822 130 44196	BC548C
7114	4822 130 40937	BC548B
7115	4822 130 41024	BF245B
7116	4822 130 60163	2SC1047
7119	5322 130 41983	BC858B
7120	4822 130 44196	BC548C
7125	4822 130 44197	BC558B
7150	5322 130 44779	BC338-40
7151	4822 130 60163	2SC1047
7157	5322 130 44779	BC338-40

Note: Only the parts mentioned in this list are normal service spare parts.

TUNER 92 BOARD

MISCELLANEOUS

1101	4822 210 10492	Tuner Unit FE415-G11
1110	4822 267 10283	FM Antenna Socket

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2101	5322 122 34099	470pF 10% 63V
2102	5322 122 32268	470pF 10% 50V
2103	4822 124 40433	47µF 20% 25V
2104	4822 121 42408	220nF 5% 63V
2105	5322 122 32654	22nF 10% 63V
2108	5322 122 32654	22nF 10% 63V
2109	5322 122 32654	22nF 10% 63V
2110	5322 122 32654	22nF 10% 63V
2112	5322 122 32654	22nF 10% 63V
2113	5322 122 32661	56pF 5% 50V
2114	5322 124 41431	22µF 20% 35V
2115	4822 124 40239	0.47µF 20% 63V
2116	5322 121 42386	100nF 5% 63V
2117	4822 122 33902	12nF 10% 63V
2118	4822 122 33902	12nF 10% 63V
2119	4822 124 40244	2.2µF 20% 63V
2120	4822 124 40244	2.2µF 20% 63V
2121	4822 124 40196	220µF 20% 16V
2123	4822 124 40246	4.7µF 20% 63V
2124	4822 124 40246	4.7µF 20% 63V
2125	4822 122 33177	10nF 20% 50V
2126	4822 122 31782	15nF 10% 50V
2127	5322 122 31863	330pF
2128	5322 116 80853	560pF
2129	4822 124 40242	1µF 20% 63V
2131	4822 124 40248	10µF 20% 63V
2141	Not applicable	
2142	4822 125 60102	Trimmer 30pF
2144	4822 121 42408	220nF 5% 63V
2145	4822 121 51263	510pF 1% 400V
2146	4822 121 70082	430pF 1% 400V
2147	5322 122 32654	22nF 10% 63V
2148	5322 122 32452	47pF 5% 63V
2149	4822 122 33177	10nF 20% 50V
2150	5322 122 32654	22nF 10% 63V
2151	5322 122 34099	470pF 10% 63V
2152	4822 124 40242	1µF 20% 63V
2153	5322 122 34099	470pF 10% 63V
2154	5322 122 32481	15pF 5% 50V
2155	5322 122 32965	18pF 5% 50V
2156	4822 124 40433	47µF 20% 25V
2158	5322 126 10223	4.7nF 10% 63V
2159	5322 126 10223	4.7nF 10% 63V
2160	4822 124 41631	1.5µF 50V
2161	4822 122 32927	220nF +80-20% 50V
2162	4822 122 10166	22nF 30% 16V
2165	4822 124 40433	47µF 20% 25V

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2188	5322 122 32654	22nF 10% 63V
2193	4822 125 60102	Trimmer 5.2-30pF
2194	4822 125 60101	Trimmer 3-11pF
2195	5322 122 33861	120pF 5%
2196	5322 122 32448	10pF 5% 50V
2197	Not applicable	
2210	4822 124 41643	100µF 20% 16V
2215	5322 122 32268	470pF 10% 50V
2216	5322 122 32268	470pF 10% 50V
2221	5322 122 32268	470pF 10% 50V
2222	Not applicable	
2223	Not applicable	
2224	4822 122 31173	220pF 10% 500V
2225	4822 122 31173	220pF 10% 500V

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3101	4822 052 10478 ⚠	4Ω7 5% 0.33W
3102	4822 051 20224	220k 5% 0.1W
3103	Not applicable	
3104	4822 051 20154	150k 5% 0.1W
3105	4822 051 20562	5k6 5% 0.1W
3106	4822 051 20829	82Ω 5% 0.1W
3107	4822 051 20008	0Ω Jumper
3113	4822 050 22201 ⚠	220Ω 1% 1/6W
3114	4822 051 20332	3k3 5% 0.1W
3115	4822 051 20391	390Ω 5% 0.1W
3116	4822 051 20478	4Ω7 5% 0.1W
3117	4822 051 20331	330Ω 5% 0.1W
3118	4822 116 52215 ⚠	220Ω 5% 0.5W
3120	4822 052 10229 ⚠	22Ω 5%
3121	4822 051 20272	2k7 5% 0.1W
3122	4822 051 20562	5k6 5% 0.1W
3123	4822 051 20223	22k 5% 0.1W
3124	4822 051 20103	10k 5% 0.1W
3125	4822 100 11213	Trimmer 22k 30%
3126	4822 051 20123	12k 5% 0.1W
3127	4822 051 20562	5k6 5% 0.1W
3128	4822 051 20562	5k6 5% 0.1W
3129	4822 051 20822	8k2 5% 0.1W
3131	4822 100 11319	Trimmer 4k7
3132	4822 051 20183	18k 5% 0.1W
3133	4822 051 20008	0Ω Jumper 0805
3134	4822 050 15602	5k6 1% 0.4W
3135	4822 051 10008	0Ω 5% 0.25W
3138	4822 116 83922 ⚠	150Ω 5% 1W
3139	4822 051 20008	0Ω Jumper
3141	4822 051 20472	4k7 5% 0.1W
3142	4822 051 20472	4k7 5% 0.1W
3143	4822 051 20821	820Ω 5% 0.1W
3144	4822 051 20331	330Ω 5% 0.1W
3145	4822 051 20271	270Ω 5% 0.1W

2895	4822 122 33496	100nF 10% 63V
2896	5322 124 41431	22µF 20% 35V
2897	4822 124 40433	47µF 20% 25V
2898	4822 124 40433	47µF 20% 25V
2905	4822 122 33175	2.2nF 20% 50V
2906	5322 122 32452	47pF 5% 63V
2907	5322 122 32452	47pF 5% 63V

3800	4822 116 52239	120k 5% 0.5W
3801	4822 116 52233	10k 5% 0.5W
3802	4822 116 52239	120k 5% 0.5W
3803	4822 116 52233	10k 5% 0.5W
3804	4822 116 52291	56k 5% 0.5W
3805	4822 116 52233	10k 5% 0.5W
3806	4822 116 52233	10k 5% 0.5W
3807	4822 116 52233	10k 5% 0.5W
3808	4822 116 52233	10k 5% 0.5W
3809	4822 052 10478 △	4Ω7 5% 0.33W
3810	4822 052 10478 △	4Ω7 5% 0.33W
3811	4822 051 20105	1M 5% 0.1W
3812	4822 050 11002	1k 1% 0.4W
3813	4822 050 11002	1k 1% 0.4W
3814	4822 116 52233	10k 5% 0.5W
3815	4822 116 52175	100Ω 5% 0.5W
3816	4822 051 20103	10k 5% 0.1W
3817	4822 116 52244	15k 5% 0.5W
3818	4822 116 52244	15k 5% 0.5W
3820	4822 051 20682	6k8 5% 0.1W
3821	4822 116 52283	4k7 5% 0.5W
3822	4822 116 52233	10k 5% 0.5W
3824	4822 052 10229 △	22Ω 5% 0.33W
3825	4822 116 52244	15k 5% 0.5W
3826	4822 116 52244	15k 5% 0.5W
3827	4822 051 20103	10k 5% 0.1W
3828	4822 116 52296	6k8 5% 0.5W
3829	4822 116 52233	10k 5% 0.5W
3830	4822 052 10229 △	22Ω 5% 0.33W
3831	4822 051 20153	15k 5% 0.1W
3832	4822 116 52244	15k 5% 0.5W
3833	4822 052 10478 △	4Ω7 5% 0.33W
3834	4822 117 10362	7k5 1% 0.1W
3835	4822 116 52296	6k8 5% 0.5W
3836	4822 116 52233	10k 5% 0.5W
3837	4822 052 10478 △	4Ω7 5% 0.33W
3838	4822 052 10229 △	22Ω 5% 0.33W
3839	4822 116 52175	100Ω 5% 0.5W
3840	4822 116 52277	39k 5% 0.5W
3841	4822 050 11002	1k 1% 0.4W
3842	4822 116 52175	100Ω 5% 0.5W
3843	4822 116 52249	1k8 5% 0.5W

3844	4822 116 52175	100Ω 5% 0.5W
3845	4822 051 20431	430Ω 5% 0.1W
3846	4822 051 20431	430Ω 5% 0.1W
3847	4822 051 20334	330k 5% 0.1W
3848	4822 051 20101	100Ω 5% 0.1W
3849	4822 051 20303	30k 5% 0.1W
3850	4822 050 11002	1k 1% 0.4W
3851	4822 051 20362	3k6 5% 0.1W
3852	4822 116 52175	100Ω 5% 0.5W
3853	4822 116 52249	1k8 5% 0.5W
3854	4822 050 11002	1k 1% 0.4W
3855	4822 051 20431	430Ω 5% 0.1W
3856	4822 116 52256	2k2 5% 0.5W
3857	4822 051 20223	22k 5% 0.1W
3858	4822 051 20223	22k 5% 0.1W
3860	4822 050 11002	1k 1% 0.4W
3861	4822 050 22205	2M2 1% 0.6W
3862	4822 116 52256	2k2 5% 0.5W
3863	4822 052 10338 △	3Ω3 5% 0.33W
3864	4822 051 20105	1M 5% 0.1W
3865	4822 116 52226	560Ω 5% 0.5W
3866	4822 051 20182	1k8 5% 0.1W
3867	4822 051 20182	1k8 5% 0.1W
3868	4822 116 52284	47k 5% 0.5W
3869	4822 116 52234	100k 5% 0.5W
3871	4822 051 20104	100k 5% 0.1W
3873	4822 116 52257	22k 5% 0.5W
3874	4822 116 52284	47k 5% 0.5W
3875	4822 051 20392	3k9 5% 0.1W
3876	4822 052 10229 △	22Ω 5% 0.33W
3877	4822 051 20103	10k 5% 0.1W
3878	4822 052 10229 △	22Ω 5% 0.33W
3879	4822 116 52269	3k3 5% 0.5W
3880	4822 050 21503	15k 1% 0.6W
3881	4822 050 21503	15k 1% 0.6W
3882	4822 116 52257	22k 5% 0.5W
3883	4822 050 11002	1k 1% 0.4W
3884	4822 116 52257	22k 5% 0.5W
3885	4822 116 52244	15k 5% 0.5W
3886	4822 116 52251	18k 5% 0.5W
3887	4822 116 52238	12k 5% 0.5W
3888	4822 050 21503	15k 1% 0.6W
3889	4822 050 21503	15k 1% 0.6W
3890	4822 050 11002	1k 1% 0.4W
3891	4822 052 10229 △	22Ω 5% 0.33W
3892	4822 052 10229 △	22Ω 5% 0.33W
3893	4822 116 52233	10k 5% 0.5W
3894	4822 116 52233	10k 5% 0.5W
3895	4822 116 52233	10k 5% 0.5W
3896	4822 116 52251	18k 5% 0.5W
3897	4822 116 52238	12k 5% 0.5W
3898	4822 050 21503	15k 1% 0.6W

CD BOARDS

MISCELLANEOUS

	4822 528 50335		Motor
	4822 528 50335		Motor
	4822 255 40991		LED Holder
	4822 323 50157		Flex Cable 18P
1820	4822 276 13106		Tact Switch
1821	4822 276 13106		Tact Switch
1822	4822 276 13106		Tact Switch
1830	4822 071 51601	⚠	Fuse T160mA 250V
1831	4822 071 51601	⚠	Fuse T160mA 250V
1840	4822 276 13114		Tact Switch
1841	4822 276 13114		Tact Switch

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2800	4822 126 10326	180pF 5% 63V
2801	4822 126 10326	180pF 5% 63V
2802	5322 122 31863	330pF 5% 50V
2803	5322 122 31865	1.5nF 10% 63V
2804	5322 116 80853	560pF 5% 63V
2805	4822 122 33575	220pF 5% 50V
2806	4822 122 33575	220pF 5% 50V
2807	4822 122 33575	220pF 5% 50V
2808	4822 122 33575	220pF 5% 50V
2809	4822 122 33575	220pF 5% 50V
2810	4822 122 33575	220pF 5% 50V
2811	4822 122 33496	100nF 10% 63V
2812	5322 124 21643	22µF 20% 40V
2813	5322 122 32654	22nF 10% 63V
2814	4822 122 33496	100nF 10% 63V
2815	4822 122 33496	100nF 10% 63V
2817	4822 126 10326	180pF 5% 63V
2818	4822 122 33496	100nF 10% 63V
2819	5322 124 41431	22µF 20% 35V
2820	5322 126 10465	3.9nF 10% 63V
2821	4822 122 33496	100nF 10% 63V
2822	5322 124 41431	22µF 20% 35V
2823	4822 122 33496	100nF 10% 63V
2824	4822 126 10326	180pF 5% 63V
2825	4822 122 32627	2.7nF 10% 50V
2826	4822 122 33496	100nF 10% 63V
2827	4822 122 33175	2.2nF 20% 50V
2828	4822 122 33496	100nF 10% 63V
2829	5322 124 41431	22µF 20% 35V
2830	4822 122 33342	33nF 10% 63V
2831	4822 122 33496	100nF 10% 63V
2832	5322 124 41431	22µF 20% 35V
2833	4822 122 33496	100nF 10% 63V
2834	5322 124 41431	22µF 20% 35V
2835	4822 122 33496	100nF 10% 63V
2836	5322 122 32452	47pF 5% 63V
2837	5322 122 32452	47pF 5% 63V
2838	5322 122 32531	100pF 5% 50V

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2839	5322 122 32965	18pF 5% 50V
2840	4822 126 10326	180pF 5% 63V
2841	5322 124 21643	22µF 20% 40V
2842	5322 122 31863	330pF 5% 50V
2843	4822 126 10326	180pF 5% 63V
2844	5322 122 32452	47pF 5% 63V
2845	4822 122 33175	2.2nF 20% 50V
2846	4822 124 40849	330µF 20% 16V
2847	4822 122 33496	100nF 10% 63V
2848	5322 121 42661	330nF 5% 63V
2849	5322 126 10223	4.7nF 10% 63V
2850	4822 122 33496	100nF 10% 63V
2851	4822 124 41584	100µF 20% 10V
2852	5322 122 32654	22nF 10% 63V
2853	4822 124 40242	1µF 20% 63V
2854	5322 122 32659	33pF 5% 50V
2855	4822 122 33496	100nF 10% 63V
2856	4822 122 33496	100nF 10% 63V
2859	4822 124 40242	1µF 20% 63V
2860	5322 126 10223	4.7nF 10% 63V
2861	5322 126 10223	4.7nF 10% 63V
2862	5322 122 32452	47pF 5% 63V
2863	5322 122 32452	47pF 5% 63V
2864	4822 122 32542	47nF 10% 63V
2865	4822 122 33496	100nF 10% 63V
2868	4822 122 33177	10nF 20% 50V
2869	4822 124 40433	47µF 20% 25V
2870	4822 124 41584	100µF 20% 10V
2871	4822 122 33496	100nF 10% 63V
2872	4822 122 33496	100nF 10% 63V
2873	5322 122 31863	330pF 5% 50V
2874	4822 124 40849	330µF 20% 16V
2875	4822 122 33496	100nF 10% 63V
2876	4822 122 33216	270pF 5% 50V
2877	4822 124 40246	4.7µF 20% 63V
2878	4822 122 33481	1.8nF 2% 63V
2879	4822 122 33496	100nF 10% 63V
2880	4822 124 40246	4.7µF 20% 63V
2881	4822 122 33216	270pF 5% 50V
2882	4822 124 40246	4.7µF 20% 63V
2883	5322 122 31863	330pF 5% 50V
2884	4822 124 40433	47µF 20% 25V
2885	4822 122 33481	1.8nF 2% 63V
2886	4822 124 40433	47µF 20% 25V
2887	5322 122 32654	22nF 10% 63V
2888	4822 122 33496	100nF 10% 63V
2889	4822 122 33496	100nF 10% 63V
2890	4822 122 33496	100nF 10% 63V
2891	4822 124 40201	1000µF 20% 16V
2892	4822 122 33496	100nF 10% 63V
2893	4822 122 33496	100nF 10% 63V
2894	4822 124 40201	1000µF 20% 16V

CD BOARDS

MISCELLANEOUS

	4822 528 50335		Motor
	4822 528 50335		Motor
	4822 255 40991		LED Holder
	4822 323 50157		Flex Cable 18P
1820	4822 276 13106		Tact Switch
1821	4822 276 13106		Tact Switch
1822	4822 276 13106		Tact Switch
1830	4822 071 51601	⚠	Fuse T160mA 250V
1831	4822 071 51601	⚠	Fuse T160mA 250V
1840	4822 276 13114		Tact Switch
1841	4822 276 13114		Tact Switch

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2800	4822 126 10326	180pF 5% 63V
2801	4822 126 10326	180pF 5% 63V
2802	5322 122 31863	330pF 5% 50V
2803	5322 122 31865	1.5nF 10% 63V
2804	5322 116 80853	560pF 5% 63V
2805	4822 122 33575	220pF 5% 50V
2806	4822 122 33575	220pF 5% 50V
2807	4822 122 33575	220pF 5% 50V
2808	4822 122 33575	220pF 5% 50V
2809	4822 122 33575	220pF 5% 50V
2810	4822 122 33575	220pF 5% 50V
2811	4822 122 33496	100nF 10% 63V
2812	5322 124 21643	22µF 20% 40V
2813	5322 122 32654	22nF 10% 63V
2814	4822 122 33496	100nF 10% 63V
2815	4822 122 33496	100nF 10% 63V
2817	4822 126 10326	180pF 5% 63V
2818	4822 122 33496	100nF 10% 63V
2819	5322 124 41431	22µF 20% 35V
2820	5322 126 10465	3.9nF 10% 63V
2821	4822 122 33496	100nF 10% 63V
2822	5322 124 41431	22µF 20% 35V
2823	4822 122 33496	100nF 10% 63V
2824	4822 126 10326	180pF 5% 63V
2825	4822 122 32627	2.7nF 10% 50V
2826	4822 122 33496	100nF 10% 63V
2827	4822 122 33175	2.2nF 20% 50V
2828	4822 122 33496	100nF 10% 63V
2829	5322 124 41431	22µF 20% 35V
2830	4822 122 33342	33nF 10% 63V
2831	4822 122 33496	100nF 10% 63V
2832	5322 124 41431	22µF 20% 35V
2833	4822 122 33496	100nF 10% 63V
2834	5322 124 41431	22µF 20% 35V
2835	4822 122 33496	100nF 10% 63V
2836	5322 122 32452	47pF 5% 63V
2837	5322 122 32452	47pF 5% 63V
2838	5322 122 32531	100pF 5% 50V

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2839	5322 122 32965	18pF 5% 50V
2840	4822 126 10326	180pF 5% 63V
2841	5322 124 21643	22µF 20% 40V
2842	5322 122 31863	330pF 5% 50V
2843	4822 126 10326	180pF 5% 63V
2844	5322 122 32452	47pF 5% 63V
2845	4822 122 33175	2.2nF 20% 50V
2846	4822 124 40849	330µF 20% 16V
2847	4822 122 33496	100nF 10% 63V
2848	5322 121 42661	330nF 5% 63V
2849	5322 126 10223	4.7nF 10% 63V
2850	4822 122 33496	100nF 10% 63V
2851	4822 124 41584	100µF 20% 10V
2852	5322 122 32654	22nF 10% 63V
2853	4822 124 40242	1µF 20% 63V
2854	5322 122 32659	33pF 5% 50V
2855	4822 122 33496	100nF 10% 63V
2856	4822 122 33496	100nF 10% 63V
2859	4822 124 40242	1µF 20% 63V
2860	5322 126 10223	4.7nF 10% 63V
2861	5322 126 10223	4.7nF 10% 63V
2862	5322 122 32452	47pF 5% 63V
2863	5322 122 32452	47pF 5% 63V
2864	4822 122 32542	47nF 10% 63V
2865	4822 122 33496	100nF 10% 63V
2868	4822 122 33177	10nF 20% 50V
2869	4822 124 40433	47µF 20% 25V
2870	4822 124 41584	100µF 20% 10V
2871	4822 122 33496	100nF 10% 63V
2872	4822 122 33496	100nF 10% 63V
2873	5322 122 31863	330pF 5% 50V
2874	4822 124 40849	330µF 20% 16V
2875	4822 122 33496	100nF 10% 63V
2876	4822 122 33216	270pF 5% 50V
2877	4822 124 40246	4.7µF 20% 63V
2878	4822 122 33481	1.8nF 2% 63V
2879	4822 122 33496	100nF 10% 63V
2880	4822 124 40246	4.7µF 20% 63V
2881	4822 122 33216	270pF 5% 50V
2882	4822 124 40246	4.7µF 20% 63V
2883	5322 122 31863	330pF 5% 50V
2884	4822 124 40433	47µF 20% 25V
2885	4822 122 33481	1.8nF 2% 63V
2886	4822 124 40433	47µF 20% 25V
2887	5322 122 32654	22nF 10% 63V
2888	4822 122 33496	100nF 10% 63V
2889	4822 122 33496	100nF 10% 63V
2890	4822 122 33496	100nF 10% 63V
2891	4822 124 40201	100µF 20% 16V
2892	4822 122 33496	100nF 10% 63V
2893	4822 122 33496	100nF 10% 63V
2894	4822 124 40201	100µF 20% 16V

2895	4822 122 33496	100nF 10% 63V
2896	5322 124 41431	22µF 20% 35V
2897	4822 124 40433	47µF 20% 25V
2898	4822 124 40433	47µF 20% 25V
2905	4822 122 33175	2.2nF 20% 50V
2906	5322 122 32452	47pF 5% 63V
2907	5322 122 32452	47pF 5% 63V

3800	4822 116 52239	120k 5% 0.5W
3801	4822 116 52233	10k 5% 0.5W
3802	4822 116 52239	120k 5% 0.5W
3803	4822 116 52233	10k 5% 0.5W
3804	4822 116 52291	56k 5% 0.5W
3805	4822 116 52233	10k 5% 0.5W
3806	4822 116 52233	10k 5% 0.5W
3807	4822 116 52233	10k 5% 0.5W
3808	4822 116 52233	10k 5% 0.5W
3809	4822 052 10478 △	4Ω7 5% 0.33W
3810	4822 052 10478 △	4Ω7 5% 0.33W
3811	4822 051 20105	1M 5% 0.1W
3812	4822 050 11002	1k 1% 0.4W
3813	4822 050 11002	1k 1% 0.4W
3814	4822 116 52233	10k 5% 0.5W
3815	4822 116 52175	100Ω 5% 0.5W
3816	4822 051 20103	10k 5% 0.1W
3817	4822 116 52244	15k 5% 0.5W
3818	4822 116 52244	15k 5% 0.5W
3820	4822 051 20682	6k8 5% 0.1W
3821	4822 116 52283	4k7 5% 0.5W
3822	4822 116 52233	10k 5% 0.5W
3824	4822 052 10229 △	22Ω 5% 0.33W
3825	4822 116 52244	15k 5% 0.5W
3826	4822 116 52244	15k 5% 0.5W
3827	4822 051 20103	10k 5% 0.1W
3828	4822 116 52296	6k8 5% 0.5W
3829	4822 116 52233	10k 5% 0.5W
3830	4822 052 10229 △	22Ω 5% 0.33W
3831	4822 051 20153	15k 5% 0.1W
3832	4822 116 52244	15k 5% 0.5W
3833	4822 052 10478 △	4Ω7 5% 0.33W
3834	4822 117 10362	7k5 1% 0.1W
3835	4822 116 52296	6k8 5% 0.5W
3836	4822 116 52233	10k 5% 0.5W
3837	4822 052 10478 △	4Ω7 5% 0.33W
3838	4822 052 10229 △	22Ω 5% 0.33W
3839	4822 116 52175	100Ω 5% 0.5W
3840	4822 116 52277	39k 5% 0.5W
3841	4822 050 11002	1k 1% 0.4W
3842	4822 116 52175	100Ω 5% 0.5W
3843	4822 116 52249	1k8 5% 0.5W

3844	4822 116 52175	100Ω 5% 0.5W
3845	4822 051 20431	430Ω 5% 0.1W
3846	4822 051 20431	430Ω 5% 0.1W
3847	4822 051 20334	330k 5% 0.1W
3848	4822 051 20101	100Ω 5% 0.1W
3849	4822 051 20303	30k 5% 0.1W
3850	4822 050 11002	1k 1% 0.4W
3851	4822 051 20362	3k6 5% 0.1W
3852	4822 116 52175	100Ω 5% 0.5W
3853	4822 116 52249	1k8 5% 0.5W
3854	4822 050 11002	1k 1% 0.4W
3855	4822 051 20431	430Ω 5% 0.1W
3856	4822 116 52256	2k2 5% 0.5W
3857	4822 051 20223	22k 5% 0.1W
3858	4822 051 20223	22k 5% 0.1W
3860	4822 050 11002	1k 1% 0.4W
3861	4822 050 22205	2M2 1% 0.6W
3862	4822 116 52256	2k2 5% 0.5W
3863	4822 052 10338 △	3Ω3 5% 0.33W
3864	4822 051 20105	1M 5% 0.1W
3865	4822 116 52226	560Ω 5% 0.5W
3866	4822 051 20182	1k8 5% 0.1W
3867	4822 051 20182	1k8 5% 0.1W
3868	4822 116 52284	47k 5% 0.5W
3869	4822 116 52234	100k 5% 0.5W
3871	4822 051 20104	100k 5% 0.1W
3873	4822 116 52257	22k 5% 0.5W
3874	4822 116 52284	47k 5% 0.5W
3875	4822 051 20392	3k9 5% 0.1W
3876	4822 052 10229 △	22Ω 5% 0.33W
3877	4822 051 20103	10k 5% 0.1W
3878	4822 052 10229 △	22Ω 5% 0.33W
3879	4822 116 52269	3k3 5% 0.5W
3880	4822 050 21503	15k 1% 0.6W
3881	4822 050 21503	15k 1% 0.6W
3882	4822 116 52257	22k 5% 0.5W
3883	4822 050 11002	1k 1% 0.4W
3884	4822 116 52257	22k 5% 0.5W
3885	4822 116 52244	15k 5% 0.5W
3886	4822 116 52251	18k 5% 0.5W
3887	4822 116 52238	12k 5% 0.5W
3888	4822 050 21503	15k 1% 0.6W
3889	4822 050 21503	15k 1% 0.6W
3890	4822 050 11002	1k 1% 0.4W
3891	4822 052 10229 △	22Ω 5% 0.33W
3892	4822 052 10229 △	22Ω 5% 0.33W
3893	4822 116 52233	10k 5% 0.5W
3894	4822 116 52233	10k 5% 0.5W
3895	4822 116 52233	10k 5% 0.5W
3896	4822 116 52251	18k 5% 0.5W
3897	4822 116 52238	12k 5% 0.5W
3898	4822 050 21503	15k 1% 0.6W

7800	4822 209 31064	TDA1301T/N1
7801	4822 209 71579	MC7805.2CT
7802	4822 209 72587	TCA0372
7803	4822 209 72587	TCA0372
7804	4822 209 32036	UM6264BM-10L
7805	4822 209 30388	SAA7341GP
7806	4822 209 32419	MC68HC05D9-CDC Module
7807	4822 209 72587	TCA0372
7808	4822 209 83274	NJM4560D
7809	4822 209 83274	NJM4560D
7810	4822 209 71579 ⚠	MC7805.2CT
7820	4822 130 60887	BF840
7821	5322 130 41982	BC848B
7822	5322 130 41983	BC858B
7823	5322 130 41982	BC848B
7824	5322 130 41982	BC848B
7825	4822 130 42675	BC818
7826	5322 130 42012	BC858
7827	4822 130 61207	BC848
7828	4822 130 42616	BC818-40
7829	5322 130 42012	BC858
7830	4822 130 42616	BC818-40
7831	5322 130 42012	BC858
7832	4822 130 83031	BPW85A

Note: Only the parts mentioned in this list are normal service spare parts.

ACCESSORIES

4822 303 50063		FM Aerial
4822 218 10513		Remote Control RH6828/00
4822 445 10415	*	Loudspeaker Box Set AK295/30
4822 445 10362	#	Loudspeaker Box Set AK245/30
4822 445 10366	@	Loudspeaker Box Set AK285/30
4822 263 21071		Adaptor Fem/Fem for /25
4822 321 10831	⚠	Mains Cord IEC
4822 321 11074	⚠	Mains Cord UK for /25
4822 736 22212		Instruction For Use

* For AS650/21, AS655/21/30
# For AS650/20/22/25
@ For AS650/20B

Note: Only the parts mentioned in this list are normal service spare parts.

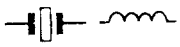
SET PARTS

1006	4822 130 83092	TLHR4205 LED from Volume potm
2001	4822 122 33519	470pF 10% 50V for /22

Note: Only the parts mentioned in this list are normal service spare parts.

3899	4822 116 52226	560Ω 5% 0.5W
3901	4822 116 52233	10k 5% 0.5W
3905	4822 116 52233	10k 5% 0.5W
3906	4822 116 52233	10k 5% 0.5W
3907	4822 116 52233	10k 5% 0.5W
4800	4822 050 11002	1k 1% 0.4W
4801	4822 050 21503	15k 1% 0.6W
4802	4822 116 52257	22k 5% 0.5W
4803	4822 116 52244	15k 5% 0.5W
4804	4822 050 21503	15k 1% 0.6W
4805	4822 050 21503	15k 1% 0.6W
4806	4822 050 11002	1k 1% 0.4W
4807	4822 116 52269	3k3 5% 0.5W
4808	4822 116 52257	22k 5% 0.5W
4809	4822 051 20473	47k 5% 0.1W
4810	4822 051 20103	10k 5% 0.1W
4811	4822 051 20103	10k 5% 0.1W
4812	4822 051 20103	10k 5% 0.1W
4813	4822 116 52233	10k 5% 0.5W
4814	4822 116 52233	10k 5% 0.5W
4815	4822 051 20103	10k 5% 0.1W
4817	4822 116 52233	10k 5% 0.5W
4818	4822 051 20332	3k3 5% 0.1W
4819	4822 116 52233	10k 5% 0.5W
4820	4822 052 10478 ⚠	4Ω7 5% 0.33W
4821	4822 051 20561	560Ω 5% 0.1W
4822	4822 051 10102	1k 2% 0.25W
4823	4822 051 20224	220k 5% 0.1W
4824	4822 116 52233	10k 5% 0.5W
4825	4822 116 52233	10k 5% 0.5W
4826	4822 116 52233	10k 5% 0.5W
4827	4822 051 20223	22k 5% 0.1W
4828	4822 116 52238	12k 5% 0.5W
4829	4822 116 52238	12k 5% 0.5W
4830	4822 052 10108 ⚠	1Ω 5% 0.33W
4831	4822 116 52276	3k9 5% 0.5W
4832	4822 116 52238	12k 5% 0.5W
4833	4822 051 20123	12k 5% 0.1W
4834	4822 052 10108 ⚠	1Ω 5% 0.33W
4835	4822 052 10229 ⚠	22Ω 5% 0.33W
4836	4822 052 10108 ⚠	1Ω 5% 0.33W
4837	4822 052 10108 ⚠	1Ω 5% 0.33W
4838	4822 051 20103	10k 5% 0.1W
4840	4822 116 52233	10k 5% 0.5W
4841	4822 051 20103	10k 5% 0.1W
4842	4822 051 20224	220k 5% 0.1W
4843	4822 051 20562	5k6 5% 0.1W
4847	4822 116 52233	10k 5% 0.5W
4848	4822 116 52233	10k 5% 0.5W
4849	4822 116 52233	10k 5% 0.5W
4850	4822 116 52231	820Ω 5% 0.5W
4851	4822 116 52238	12k 5% 0.5W

4852	4822 051 20123	12k 5% 0.1W
4853	4822 116 52238	12k 5% 0.5W
4854	4822 116 52238	12k 5% 0.5W
4855	4822 052 10229 ⚠	22Ω 5% 0.33W
4856	4822 052 10108 ⚠	1Ω 5% 0.33W
4857	4822 116 52284	47k 5% 0.5W
4858	4822 116 52284	47k 5% 0.5W
4859	4822 052 10108 ⚠	1Ω 5% 0.33W
4860	4822 051 10102	1k 2% 0.25W
4861	4822 051 20471	470Ω 5% 0.1W
4862	4822 051 20471	470Ω 5% 0.1W
4863	4822 051 10008	0Ω 5% 0.25W
4864	4822 051 20561	560Ω 5% 0.1W
4877	4822 051 10008	0Ω 5% 0.25W
4878	4822 051 10008	0Ω 5% 0.25W
4881	4822 051 10008	0Ω 5% 0.25W
4882	4822 051 10008	0Ω 5% 0.25W
4883	4822 051 10008	0Ω 5% 0.25W
4885	4822 051 10008	0Ω 5% 0.25W
4886	4822 051 10008	0Ω 5% 0.25W
4888	4822 051 10008	0Ω 5% 0.25W
4889	4822 051 10008	0Ω 5% 0.25W
4890	4822 051 20271	270Ω 5% 0.1W
4891	4822 116 52217	270Ω 5% 0.5W
4892	4822 116 52217	270Ω 5% 0.5W
4893	4822 116 52217	270Ω 5% 0.5W
4894	4822 051 10008	0Ω 5% 0.25W
4895	4822 051 10008	0Ω 5% 0.25W
4896	4822 051 10008	0Ω 5% 0.25W
4897	4822 051 10008	0Ω 5% 0.25W
4898	4822 051 10008	0Ω 5% 0.25W
4899	4822 051 10008	0Ω 5% 0.25W



1801	4822 242 81151	X'tal 16.9344MHz
1802	4822 242 73557	Ceramic Resonator 8.46MHz
1840	4822 242 72527	Ceramic Resonator 4MHz (µP circuit)
5801	4822 157 53447	FE Bead
5802	4822 157 53447	FE Bead

6800	4822 130 30621	1N4148
6801	4822 130 34173	BZX79-C5V6
6802	4822 130 31981	BZX79-C3V9